INDIANA'S
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
RULE 13 GUIDANCE

A guide to accompany the MS4 general permit requirements
under 327 IAC 15-13

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February 2003

QUESTIONS, COMMENTS, AND COPIES

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Downloadable copies of this document are also available as a link from the IDEM Rule 13 Web site at: www.in.gov/idem/water/compbr/wetwthr/storm/rule13.html.

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INTRODUCTION TO GUIDANCE DOCUMENT

The federal Clean Water Act requires storm water discharges from certain types of urbanized areas to be permitted under the National Pollutant Discharge Elimination System (NPDES) program. In 1990, Phase I of these requirements became effective, and municipalities with a population served by a municipal separate storm sewer system (MS4) of 100,000, or more, were regulated. In 1999, Phase II became effective, and any entity responsible for an MS4 conveyance, regardless of population size, could potentially be regulated.

In Indiana, storm water discharge permits are issued by the Indiana Department of Environmental Management (IDEM). Under Phase I requirements, only the City of Indianapolis met the designation criteria, and was issued an individual NPDES storm water permit. To comply with Phase II requirements, a new general NPDES permit rule was written, and an individual statewide NPDES storm water permit was issued to the Indiana Department of Transportation. The new general permit rule, referred to as Rule 13, provided permit coverage for most Phase II MS4 entities.

This guidance document was created to accompany the actual Rule 13 language. Part II of the document is written to correspond to the sections and subsections of Rule 13, and, for convenience, actually includes the majority of Rule 13 text (italicized text within quotations that follow a "*"). In general, this document presents IDEM policy, and provides instructions and ideas for developing a complete MS4 area program. To allow for more flexibility, IDEM does not require a regulated MS4 entity to complete every item or suggestion that the guidance specifies. Rather, IDEM has included these items as recommended or acceptable ways to meet the regulatory requirements. An MS4 entity may develop alternative program elements to those recommended by this document, as long as they provide a similar level of protection to state waters.

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SECTION 1
PERMITTING OPTIONS

The Indiana Phase II storm water regulations allow for two permit coverage options, a general permit and an individual permit.

(1) General Permit

IDEM foresees that the vast majority, if not all, of the Phase II MS4 entities in Indiana will be covered under general permits. A general permit is a single permit that is written to cover multiple permittees with similar characteristics. No written draft permit is issued to the permittee under a general permit. Instead, the requirements and conditions of this type of permit are found in Indiana Administrative Code, under the appropriate general permit rule. Notice of Intent (NOI) letters for this type of permit can be by either a single MS4 entity, or multiple MS4 entities.

For single MS4 entity NOI letter submittals, the MS4 operator may complete the NOI letter requirements of Rule 13, and submit material to IDEM that covers only its own MS4 conveyances. An MS4 operator can still apply individually and take credit for another entity's storm water program components, with the caveat that the shared components are identified, and agreed upon by both entities, in the information submitted with the NOI letter.

For multiple MS4 entity NOI letter submittals, the regulated MS4 entities must select one MS4 operator for the MS4 area to be covered by the permit. This MS4 operator would complete the NOI letter requirements of Rule 13, and submit material to IDEM that covers all the regulated MS4 area conveyances. The information submitted with the NOI letter must clearly indicate which entities will be implementing which minimum measures (or component thereof).

(2) Individual Permit

An individual permit is a permit drafted by IDEM to cover only one permittee, or several co-permittees. This type of permit is tailored to the specific permittee(s), and will contain conditions and requirements that are often different (usually more stringent or specific) from a general permit. Because this type of permit's requirements are written, and tailored to the permittee(s), it takes much longer to create, and is not preferred for permitting MS4 entity discharges. This type of permit is utilized most often in situations where a general permit is not providing adequate requirements to protect the Indiana's water resources, and requirements need to be tailored to provide additional protection.

(a) Statewide Individual Permit

IDEM will utilize statewide general permits for specific situations, where the permittee is responsible for multiple facilities or areas throughout the entire state. For Indiana, only the Indiana Department of Transportation was deemed appropriate for this type of permit.

(b) MS4 Area Individual Permit

Individual permits provide coverage to a single MS4 area. This MS4 area can include either one entity, or multiple regulated entities. Again, for multiple entities, the minimum measure responsibilities for each entity must be indicated, and agreed upon by the entities, in the application for permit coverage.

Under Phase I federal storm water regulations, regulated MS4 entities were required to obtain individual permits. Another option for Indiana Phase II-regulated MS4 entities located near a Phase I permittee is to seek coverage under an existing Phase I individual permit when the permit is up for its five-year renewal.

SECTION 2
REGULATORY MECHANISMS AND ORDINANCES

Regulatory mechanisms, such as ordinances, provide a means for the permittee to implement and enforce their permit conditions by providing a compliance mechanism that assists in the attainment of measurable goals. Within Rule 13, ordinances, or other regulatory mechanisms, are required to address the illicit discharge detection and elimination, construction site storm water run-off control, and postconstruction storm water run-off control in new development and redevelopment minimum measures.

Several items should be considered when drafting and implementing regulatory mechanisms. Considerations include:

- *Legal authority* - does the MS4 entity have the legal authority to develop and implement the applicable mechanism(s)? It is the responsibility of the regulated MS4 entity to determine if they do not have such legal authority.
- *Practicability* - is the mechanism written so that all parties can clearly understand and meet its objectives and requirements? Is it designed so that it can be implemented in the field with minimal problems? Is the mechanism "enforceable" by the MS4 entity?
- *Applicability* - does the mechanism meet the intent, as well as the specifics, of Rule 13 requirements? Does the mechanism apply to any, and all, appropriate entities within the MS4 entity's physical and jurisdictional boundaries?
- *Desired goals and objectives* - does the mechanism clearly state the applicable goals and objectives, relative to Rule 13 requirements? Are the goals and objectives obtainable by all parties involved? Are the overall goals and objectives of the mechanism tied to appropriate measurable goals?
- *Resources* - is the cost to develop, implement, and enforce the mechanism commensurate with its priority in the overall permitting program? Are the necessary resources available

to develop, implement, and enforce the mechanism?

- *Implementation* - is the mechanism implementable, particularly with respect to the entities that will need to meet the mechanism requirements? Are there provisions in the mechanism that may preclude it from being usable and reasonable? Are the provisions based on existing technologies?

Several types of regulatory mechanisms, appropriate to Rule 13, may be created or updated. Some mechanism examples include sedimentation and erosion control for construction site projects, structural BMPs for postconstruction storm water run-off control, storm drainage design and management, buffer strip placement, illicit discharge detection and elimination, storm water utility creation, transfer of development responsibilities during and after construction, golf course management, wetlands and watercourse management, operation and maintenance of MS4 conveyances and long-term structural BMPs, litter and floatable material (e.g., trash, junk, weeds, yard waste) management, and landscape design.

SECTION 3
ENFORCEMENT OPTIONS

For storm water compliance, IDEM typically uses a process termed “progressive enforcement.” This process involves the following steps:

(1) written notification (via inspection reports or notice of deficiency/noncompliance letter) that the permittee has noncompliance or deficiencies;
(2) if no response actions are taken within the time frame specified by IDEM in the notification, a formal written letter of noncompliance is mailed;
(3) for repeated noncompliance or lack of effort to address the documented deficient or noncompliant items, referral to IDEM’s Office of Enforcement to generate and mail a Notice of Violation letter, and enter into an Agreed Order with the permittee to correct the deficiencies or noncompliance; and
(4) in extreme cases, a Commissioner’s Order can be issued to stop activities associated with a noncompliant storm water discharge.

On the MS4-entity level, more enforcement options for noncompliance are potentially available. Several of these options are:

- withholding of permit or certification approvals (e.g., building permits or certificates of occupancy)
- verbal warning
- warning letter/inspection report
- letter of noncompliance
- stop-work order
- permit revocation (e.g., building or construction)
- notice of violation and order with monetary fines
- recoupment of costs for corrective actions conducted by the MS4 entity
- municipal summons

- referral to IDEM or IDNR

PART II - Rule Requirements

SECTION 1 (327 IAC 15-13-1)
PURPOSE

*"*The purpose of this rule is to establish requirements for storm water discharges from municipal separate storm sewer system (MS4) conveyances so that public health, existing water uses, and aquatic biota are protected.*"

According to the December 8, 1999, Federal Register Final Rule affecting 40 CFR Parts 9, 122, 123, and 124, "storm water run-off from lands modified by human activities can harm surface water resources and, in turn, cause of contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings." Pollutants found in storm water run-off "impair water quality, threaten designated beneficial uses, and cause habitat alteration or destruction." "Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans."

MS4 conveyances within urbanized areas have one of the greatest potentials for polluted storm water run-off. The Federal Register Final Rule explains the reason as: "urbanization alters the natural infiltration capacity of the land and generates...pollutants...causing an increase in storm water run-off volumes and pollutant loadings." Based on increased population and proportionally higher pollutant sources, urbanization results "in a greater concentration of pollutants that can be mobilized by, or disposed into, storm water discharges."

This rule is an attempt by IDEM, as the state's permitting authority, to improve the quality of storm water discharged from urbanized areas. Consistent with other state water programs, this rule's goal is to protect human health, aquatic biota, and existing water uses.

SECTION 2 (327 IAC 15-13-2)
APPLICABILITY

*"*This rule applies to an MS4 entity that:*
(1) is not required to obtain an individual NPDES permit under 327 IAC 5-4-6(a)(4), 327 IAC 5-4-6(a)(5) or 327 IAC 15-2-9(b);
(2) meets the general permit rule applicability requirements under 327 IAC 15-2-3;

(3) does not have coverage under an individual MS4 permit; and
(4) operates, maintains, or otherwise has responsibility for an MS4 conveyance within a designated MS4 area."

(1) Under 327 IAC 5-4-6(a)(4), an individual MS4 permit is required for the state department of transportation (INDOT). Instead of developing numerous permitting agreements with other regulated MS4 entities, a statewide, tailored, individual storm water permit is more appropriate for INDOT. Under 327 IAC 5-4-6(a)(5), individual MS4 permits are required for MS4 entities that, according to 40 CFR 122.26, are still classified as large and medium MS4s, after an allowance for percentage of combined sewer system is calculated. In Indiana, only the City of Indianapolis met this classification after the allowance. Under 327 IAC 15-2-9(b), individual MS4 permits are required when water quality standards are not being met under the general permit, technology or regulatory change has occurred that causes the implementation of specific controls or limitations not expressed in the general permit, or a general permit is no longer appropriate based on permittee changes.

(2) Under 327 IAC 15-2-3, a general permit is allowed for storm water point source discharges not covered under an individual storm water permit. Relevant to this rule, a general permit under this rule can be obtained by any MS4 entity, with the exception of the City of Indianapolis, who is covered under an individual MS4 permit.

(3) To be eligible for a general permit under this rule, a permittee can not already be covered under an individual MS4 permit. The individual MS4 permit will always take precedence over a general permit issued under this rule, and may include requirements that are different from those found in this rule.

(4) To be correctly designated under this rule, an MS4 entity must operate, maintain, or otherwise have responsibility for an MS4 conveyance within a designated MS4 area. If an MS4 entity is located within a designated MS4 area but does not have responsibility for an MS4 conveyance, it should not be designated under this rule.

SECTION 3 (327 IAC 15-13-3)
MS4 AREA DESIGNATION CRITERIA

""*(a) An MS4 entity that meets one (1) of the following is designated for permit coverage under this rule:*

(1) Located within, or contiguous to, a mapped 2000 United States Census Bureau urbanized area (UA) and is:

(A) a municipality, regardless of its United States Census Bureau population; or
(B) a university, college, military base, hospital, or correctional facility with a full-time equivalent enrollment, daily user population, or bed count occupancy (based on the most recent enrollment count, or population data) greater than or

equal to one thousand (1,000).
(2) A county that contains a mapped UA. Only the portion of the county that contains the mapped UA, as delineated by political township or section, township, and range boundaries, must be regulated. If only a portion of the county contains a mapped UA, the MS4 entity may elect to regulate, to the extent of its authority, any additional portion of the county, as delineated by political township or section, township, and range boundaries, under this rule.
(3) A documented significant contributor of pollutants to waters or a regulated MS4 area.
(4) A municipality with a population density, according to 2000 United States Census Bureau data, of five hundred (500) people per square mile or greater and United States Census Bureau population of ten thousand (10,000) or more.
(5) A municipality with a population density, according to 2000 United States Census Bureau data, of five hundred (500) people per square mile or greater, United States Census Bureau population greater than seven thousand (7,000) and less than ten thousand (10,000) and having a positive, ten (10) year population growth percentage greater than or equal to ten percent (10%).
(6) A municipality with a population density, according to 2000 United States Census Bureau data, of five hundred (500) people per square mile or greater, United States Census Bureau population greater than seven thousand (7,000) and less than ten thousand (10,000) and having a university or college full-time equivalent enrollment, military base population, hospital bed count occupancy, or correctional facility daily user population (based on the most recent enrollment, count, or population data) that places the total population greater than or equal to ten thousand (10,000).
(7) A university, college, military base, hospital, or correctional facility with a full-time equivalent enrollment, daily user population, or bed count occupancy greater than or equal to one thousand (1,000), located within a designated municipality, and having responsibility for a storm water conveyance.
(8) A conservancy district or homeowner's association with a population within their service area of greater than or equal to one thousand (1,000) people, located within a designated municipality or mapped UA, and having responsibility for a storm water conveyance.
(9) A public or private storm water utility that serves one (1) or more of the MS4 entities designated under subdivisions (1) through (8)."

The criteria in subdivisions (1) through (9) are used to designate MS4 entities under this rule. However, for any of these subdivisions to be applied to an MS4 entity, the MS4 entity must have responsibility for, at least, one MS4 conveyance, and be located in, or contiguous to, a designated municipality or mapped UA.

The 2000 Census Bureau UA maps are available. For reference purposes, IDEM has a set of the maps overlaid onto topographic quadrangles. For obtaining actual copies, regulated MS4 entities can download UA maps from the Census Bureau's web page at www.census.gov/geo/www/maps/ua2kmaps.htm. Indiana UA maps are provided under

the Anderson, Bloomington, Chicago, Cincinnati, Columbus, Evansville, Fort Wayne, Indianapolis, Kokomo, Lafayette, Louisville, Michigan City, Muncie, South Bend, and Terre Haute map headings.

If a previously unregulated MS4 entity is determined to be a documented significant contributor of pollutants to waters or a regulated MS4 area, the MS4 entity can be designated under subdivision (3). For subdivision (3) to be applicable, written documentation, which, at a minimum, should include analytical pollutant concentration or loading data and any visible pollutant evidence (i.e., photographs of discoloration, sheening, dead fish) attributable to the storm water discharge of the MS4 entity, must be provided to IDEM for consideration. In addition to the analytical and visual evidence, the person providing the documentation should also provide supporting statements (i.e., how is the unregulated discharge(s) impacting a waterbody or regulated MS4 area) as to why the MS4 entity should be designated.

"(b) An MS4 entity not already designated under subsection (a) may be designated for permit coverage if its discharge is to a sensitive area or if other environmental programs are not adequately protecting water quality.*"

The rule states that an entity may be designated if its discharge is to a sensitive area. By definition in the rule, sensitive areas include habitat areas for threatened or endangered species, intake areas for public surface water supplies, areas used for full body contact recreation, and areas classified as outstanding state resource waters or for exceptional use. Designation of an entity based solely on discharge to a sensitive area is not likely, but sensitive areas will be a criteria for designation consideration when used in combination with the quantity, quality and location of the entity's storm water discharge(s).

The rule states that an entity may be designated if other programs are ineffective in protecting water quality. This statement means that an agency, such as IDEM, IDNR or a local SWCD, can ask for permit coverage for an entity under this rule when they become aware of an entity's poor storm water discharge quality. The ineffectiveness of other programs can have many causes, and includes nonapplicability of other rules to an entity, permit coverage that does not address storm water quality, unsuccessful voluntary approaches, and noncompliant actions related to storm water quality by an entity. For this designation criteria to be used, a documented water quality problem attributable to the entity's storm water discharge must be proven.

"(c) Once an MS4 entity is designated under this section, it remains designated until the expiration of its permit, unless any of the conditions for termination in section 20 of this rule are applicable or a waiver is granted in accordance with subsection (f).*"

Once a permit is applied for under this rule, a designated MS4 entity must comply with the permit conditions until the permit expires (i.e., five years from the date of the NOI

letter submittal). During the fifth year, a new NOI letter must be submitted to continue permit coverage under this rule. The only exceptions to this five-year compliance cycle are: (1) when conditions change within the MS4 entity that place the entity below the minimum designation criteria; (2) when data or conditions indicate that an individual MS4 permit is more appropriate; (3) when analytical data is available that indicates storm water controls are not needed presently or in the future to meet water quality standards or beneficial uses in the receiving water. If one of the exceptions is applicable to a regulated MS4 entity and the entity wishes to terminate permit coverage, the MS4 entity must submit a letter to IDEM describing the reason(s) for the applicability of the exception, and any other supporting documentation as necessary to prove the exception claim.

"(d) The department shall notify MS4 entities meeting the designation criteria of this section in writing. If the department does not notify an MS4 entity in writing, an MS4 entity meeting the designation criteria of this section must comply with the requirements of 327 IAC 15-13-9(e).*"

Based on the 1990 Census Bureau UA maps, 2000 Census Bureau population data, 2000 university enrollment data, and 2000 inmate populations, an initial list of designated MS4 entities was created in 2001. Written notifications to those designated MS4 entities were mailed in the summer of 2001. With revisions to the rule language and the availability of 2000 Census Bureau UA maps, the initial MS4 entity listing was changed in 2002. A final written notification was mailed in the winter of 2002 to all designated MS4 entities on the revised listing. The revised listing is available on IDEM's Rule 13 web page referenced on the front cover of this guidance document.

As data becomes available, the listing of MS4 entities may change. When changes occur, IDEM will notify newly designated MS4 entities in writing. If IDEM does not notify an MS4 entity that is supposed to be regulated under this rule, the MS4 entity is still subject to the self reporting requirements in section 9(e) of this rule.

"(e) A designated MS4 entity subject to this rule is also subject to the requirements of 327 IAC 15-2-9(b) and may be required to obtain an individual NPDES permit.*"

Under 327 IAC 15-2-9(b), an individual NPDES permit is required when water quality standards are not being met under the general permit, technology or regulatory change has occurred that causes the implementation of specific controls or limitations not expressed in the general permit, or a general permit is no longer appropriate based on permittee changes. If any of these situations occur, MS4 entities covered under this general permit rule may be required to terminate coverage, and apply for an individual MS4 permit.

"(f) A designated MS4 entity may request a waiver from permit coverage under this rule. Unless an MS4 entity's conveyance system is substantially contributing to the pollutant loadings of a regulated, physically interconnected MS4 entity or a department determination is made that requires storm water controls, MS4 entities within a mapped UA that have a conveyance system*

serving a population of less than 1,000 are conditionally granted a waiver. For all other MS4 entities, this waiver will only be granted under the following conditions:

(1) The MS4 entity's conveyance system serves a population of less than 10,000;
(2) The MS4 entity's conveyance system is not contributing substantially to the pollutant loadings of a physically interconnected MS4 entity that is regulated by this rule;
(3) An evaluation of all waters that receive a discharge from the MS4 entity's conveyance system has been conducted by the department or another approved entity;
(4) For all evaluated waters, the department has determined that storm water controls are not needed based on wasteload allocations that are part of a United States Environmental Protection Agency approved or established total maximum daily load or equivalent process, and are reflective of pollutants identified as sources of impairment; and
(5) The department has determined that future discharges from the MS4 entity's conveyance system do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts."

Waivers allowed under this rule are conditional, and only allowed for two population-based categories of MS4 entities. For MS4 entities within a mapped UA that have an MS4 conveyance serving a population of less than 1,000 people, a waiver is granted automatically unless the MS4 conveyance is substantially contributing to the pollutant loadings of a regulated, physically interconnected MS4 entity or a department determination is made that requires storm water controls. For the second conditional waiver to be allowed, the conditions in subdivisions (1) through (5) of the rule must be met. Since the waiver is contingent on currently unavailable receiving water quality data evaluations, IDEM expects that no MS4 entity will be able to adequately meet all five of the required conditions for a waiver to be allowed in 2003.

SECTION 4 (327 IAC 15-13-4)
GENERAL PERMIT BOUNDARY

"(a) This general permit covers Indiana.*

(b) For each MS4 entity, the permit covers all storm water discharges from conveyance systems for which it has jurisdiction, or, in the case of designated counties, the portion of the county jurisdictional area depicted in a mapped UA as specified under section 3(a)(2) of this rule, unless appropriate written, enforceable, legal documentation has been obtained to allow another entity to have permit responsibilities for systems and areas within another entity's jurisdiction."

A general permit issued under this rule covers designated MS4 entity boundaries within Indiana, and the jurisdictional area of the designated MS4 entity. The two exceptions related to coverage of MS4 entity jurisdictional areas are: (1) for designated counties, acceptable coverage may be limited to the boundaries of the mapped UA; and (2) for

MS4 entities sharing responsibilities for the rule requirements, acceptable coverage may be extended to the jurisdictional area of another MS4 entity with the written approval of that other MS4 entity.

SECTION 5 (327 IAC 15-13-5)
DEFINITIONS

There are 91 definitions in the rule. Only the following definitions are described in this guidance.

'(70) "Sensitive area"'*

"(A) having threatened or endangered species or their habitat;*"

An area having "threatened or endangered species" means an area, both land and water, that is conducive for species in danger of becoming extinct to thrive. A mapped listing of threatened and endangered species for Indiana can be obtained from the IDNR, Division of Nature Preserves, but an agreement must be signed with the Division of Nature Preserves prior to gaining access to the information.

"(B) usage as a public surface water supply intake;*"

For purposes of this rule, a water being used as a "public surface water supply intake" means surface waters within five (5) miles upstream and downstream or, as applicable, within a ten (10) mile radius of a point of intake used as a potable water source. The term is not intended to include ground water sources.

An IDEM database contains fifty-five (55) public water supply intakes identified by an Indiana State University study conducted in 1997-1998. This database contains system name, intake name, latitude/longitude, and comments.

"(C) usage for full body contact recreation, such as bathing beaches;*"

A water providing "full body contact recreation" means an area, both land and water, that is deemed important by local municipal, state, or federal governments for their recreational or educational value. Typically, local municipal, state, or federal governments actively support or provide maintenance to these areas. These areas can be locally designated for such public activities as swimming, fishing, boating, and skiing.

The Indiana Department of Natural Resources maintains the Indiana Recreation Facility Inventory. This inventory lists federal, state, county, municipal, and township-owned facilities:

(1) with water bodies (lakes, ponds, or rivers); and
(2) used for swimming, fishing, boating, or water skiing.

"(D) exceptional use classification as found in 327 IAC 2-1-11(b), outstanding state resource water classification as found in 327 IAC 2-1-2(3) and 327 IAC 2-1.5-19(b).*"

GIS-compatible databases are available for the exceptional use and outstanding state resource water classifications from IDEM. Staff with IDEM's Office of Water Quality can provide assistance.

SECTION 6 (327 IAC 15-13-6)
NOTICE OF INTENT (NOI) LETTER REQUIREMENTS

"(a) Unless one (1) application is submitted for multiple MS4 entities, each MS4 entity shall submit an NOI letter with the following information, which will serve as the permit application:*

(1) Contact information required under subsection (b).

(2) List of all known receiving waters or, if the discharge is to another MS4, the name of the MS4 entity and the initial receiving water. For the purposes of the NOI letter submittal, receiving waters include, at a minimum, waters listed in the United States Geological Survey National Hydrography Dataset, or, if no waters are listed on this database within a given MS4 area, the primary receiving water for the MS4 area drainage. As additional receiving waters are identified, the information must be provided in the corresponding annual report, required in section 18 of this rule.

(3) Copy of the completed SWQMP-Part A: Initial Application certification submittal and checklist form.

(4) Proof of publication in the newspaper with the greatest circulation in the affected MS4 area. The notice must provide a listing of all entities intended to be covered under the permit. This statement must be included in the public notice,

"(MS4 entity name and address) intends to discharge storm water into the (text name and numeric code of all 14-digit Hydrologic Unit Code area) watershed(s), and is submitting a Notice of Intent letter to notify the Indiana Department of Environmental Management of our intent to comply with the requirements under 327 IAC 15-13 to discharge storm water run-off associated with municipal separate storm sewer systems".

(5) Certification, by completing and signing Appendix A of the NOI letter, that any applicable, legally binding agreements between MS4 area entities have been obtained concerning individual responsibilities for implementation of this rule."

An NOI letter submittal is required under this rule. Subdivisions (1) through (5) of the rule include the specific requirements of this submittal. The principal function of the NOI letter submittal is to identify the MS4 entity, or entities, seeking coverage under the general permit NOI letter, and to ensure, via a legally binding agreement if necessary, that all requirements of this rule will be addressed during the five-year permit term.

In subdivision (2), the listing of receiving waters must include those waters listed in the

United States Geological Survey National Hydrography Dataset. This dataset is available via the internet at http://nhd.usgs.gov, and, as an alternative to downloading information from the internet, should correspond to waters listed on United States Geological Survey 7.5-minute quadrangle maps. In addition to the waterbody types excluded in the definition of receiving water under 327 IAC 15-13-5(61), intermittent waterbodies, or those waterbodies that are "dry" unless a rain event occurs, are excluded from identification.

"(b) The contact information required under subsections (a)(1) and (c)(1) must include the following:*

(1) Name of MS4 operator, primary contact individual (if different from the MS4 operator), or responsible individual for each MS4 entity.
(2) Title of the MS4 operator, primary contact individual (if different from the MS4 operator), or responsible individual or individuals.
(3) MS4 entity represented by the MS4 operator, primary contact individual (if different from the MS4 operator), or responsible individual or individuals.
(4) Mailing (and, if different, the physical) address of the MS4 operator, primary contact individual (if different from the MS4 operator), or responsible individual or individuals.
(5) Telephone and facsimile number of the MS4 operator, primary contact individual (if different from the MS4 operator), or responsible individual or individuals.
(6) E-mail address (if available) of MS4 operator, primary contact individual (if different from the MS4 operator), or responsible individual or individuals."

For permit compliance tracking and contact purposes, the identification of the MS4 operator, the primary contact individual, and all MS4 entity responsible individuals seeking coverage under the NOI letter is required with the NOI letter submittal.

For clarification, the MS4 operator is the person tasked with managing the MS4 area activities covered by a general permit issued under this rule. Only one MS4 operator can be identified per NOI letter submittal, even if multiple MS4 entities are seeking coverage under one general permit. The primary contact individual is the person assigned to be a "point of contact" for IDEM staff to obtain information. The primary contact individual can be the same person as the MS4 operator, but it may not always be the same. The responsible individual is the person tasked with ultimately ensuring that an MS4 entity is complying with the conditions of this rule or the legally binding agreement, if applicable. Each MS4 entity has a responsible individual. Some examples of an appropriate responsible individual would be a mayor, town manager, acting county commissioner or association president, or facility manager. If an NOI letter submittal is covering multiple MS4 entities, each MS4 entity must provide the name of a responsible individual, and a primary contact individual and MS4 operator must be determined and provided for the NOI letter submittal.

"(c) The SWQMP-Part A: Initial Application required under subsection (a)(3) must contain the*

following:

(1) Written listing of the MS4 entities within an MS4 area covered by the NOI letter submittal. The listing must provide the name of each MS4 entity, a responsible individual for each MS4 entity, and contact information for each MS4 entity.
(2) Written schedule which, at a minimum, adheres to the compliance schedule in section 11 of this rule.
(3) Written proposed or estimated budget allocation for the MS4 area's storm water program, with a summary of identified funding sources. When multiple MS4 entities are applying under a single NOI letter, the budget allocation must be, at a minimum, separated by MS4 entity."

A SWQMP-Part A: Initial Application containing the information in subdivisions (1) through (3) of the rule must be included with the NOI letter submittal. This information must include a listing of all MS4 entities seeking coverage under the NOI letter, a general implementation schedule, and an estimated budget for the storm water program. The listing of all MS4 entities will help IDEM ensure that all designated MS4 entities are covered by a permit. The implementation schedule will provide a time line of key permit activities. This time line can include any relevant activities to the program and time frames more reflective of the MS4 entities, but it must, at a minimum, be consistent with the compliance schedule in section 11 of the rule. The estimated budget will help IDEM ensure that some initial amount of funding is being allocated to the storm water program, and, for those programs that have funding sources, will identify those sources. This budget estimate does not need to be exact, and the monetary amount, by itself, will not be used by IDEM as a compliance tool. If monies have not been allocated to storm water by one or more of the MS4 entities seeking permit coverage prior to the NOI letter submittal, this budgetary information must include a narrative description of the proposed budgetary plan for allocating funding for the storm water program. If applicable, this proposed plan can be altered after the NOI letter submittal. A revised plan can be submitted as part of the more detailed budgetary submittal required with the SWQMP-Part C: Program Implementation.

""*(d) Multiple entities within an MS4 area may submit a single NOI letter provided they comply with the submittal requirements of this section. Coverage under a single NOI letter will only be allowed if all the MS4 entities seeking coverage consolidate, and provide, the required information in sections 7, 8, and 18 as single submittals, and the information is submitted to the department by the MS4 operator designated in subsection (b). MS4 operators may utilize materials from existing local or State programs, or partner with an existing individual MS4 permittee, if all parties agree to coordinate responsibilities in accordance with subsection (a)(5).*"

Multiple MS4 entities within an MS4 area may submit a single NOI letter. However, a single NOI letter submittal should only be pursued when all required submittals for the MS4 activities in a given MS4 area are being submitted to IDEM as single documents and

coordinated through one point, the MS4 operator. Multiple report or plan submittals, like the SWQMP-Part C: Program Implementation, will not be acceptable for one MS4 area. By consolidating information from multiple MS4 entities into single document submittals, the MS4 operator has a more complete understanding of what is going on within the MS4 area, and can thus ensure that management of the entire MS4 area is occurring.

"(e) Multiple MS4 entities within an MS4 area may submit a separate NOI letter corresponding to each entity and still share responsibilities for implementation of one (1) or more of the requirements in this rule provided they comply with the submittal requirements of this section and coordinate responsibilities in accordance with subsection (a)(5).*"

Multiple MS4 entities within an MS4 area may also submit separate NOI letters corresponding to each entity, but still share resources or responsibilities. If multiple reports or plans will be submitted but MS4 entities still want to utilize the resources or experiences of another MS4 entity for one or more of the rule requirements, this rule allows it. Under this scenario, each MS4 entity submits their own NOI letter, but, in the Appendix A, another MS4 entity is listed as being responsible for the shared rule requirement. This sharing is contingent upon the other MS4 entity agreeing, via a legally binding agreement, that they are responsible for the rule requirement.

"(f) Where multiple MS4 entities submit one (1) or more NOI letters based on a watershed delineation and the created MS4 area contains undesignated MS4 entities, the undesignated MS4 entities shall not be subject to the provisions of this rule unless the applicability requirements of section 3 apply.*"

If the boundaries of regulated MS4 areas are based on a watershed delineation that includes undesignated MS4 entities, those undesignated entities will not be automatically regulated by this rule. However, if these undesignated MS4 entities are determined to be physically interconnected to a regulated MS4 entity or are a documented significant contributor of pollutants to waters or a regulated MS4 entity, they can be designated under this rule.

"(g) Where the MS4 operator changes, or where a new operator is added after the submittal of an NOI letter, a new NOI letter must be completed and submitted in accordance with 327 IAC 15-2-8, and sections 6 and 9 of this rule. If no other conditions change except for the name of the MS4 operator, a written letter describing the name change and a statement that no other conditions, including those conditions in the SWQMP-Part A: Initial Application and legal agreements, have changed will be sufficient notification to the department.*"

In many circumstances, a new NOI letter, which includes the SWQMP-Part A: Initial Application, must be submitted when the MS4 operator changes. Due to the operator change, an opportunity is also available to alter the MS4 entity responsibilities and the

legally binding agreements. If, upon review of the MS4 area responsibilities, nothing will change except the MS4 operator name and contact information, a summary letter will be considered a sufficient submittal in lieu of a complete NOI letter.

"(h) An MS4 entity within an MS4 area that does not have the legal authority or other regulatory mechanisms to implement one (1) or more of the six (6) minimum control measures required under this rule shall either obtain the legal authority or other regulatory mechanism, or work with a neighboring regulated MS4 entity, via legally-binding agreements, to share responsibilities.*"

If legally-binding agreements are utilized, the MS4 entity listed in the agreement will be held responsible for any minimum control measures that the MS4 entity agrees to in writing. The agreement can be for any, all, or a portion of minimum control measures. Each MS4 area will likely approach these agreements differently, depending, in part, on the type of local relationships established between regulated MS4 entities. For example, a regulated city may have responsibility for maintaining and repairing city roads, but can enter into an agreement to take the additional responsibility for street sweeping of state roads within the city boundaries. In this example, the city would be held responsible for the city roads and for providing data and maintaining a continual program on street sweeping of state roads within the city boundaries.

"(i) All documents and information required by this section must meet the signatory requirements of 327 IAC 15-4-3(g).*"

The NOI letter and, as applicable, a change of MS4 operator letter submitted to IDEM must be signed by a principal executive officer or ranking elected official, or a duly authorized representative of that person.

"(j) A qualified professional and the MS4 operator shall certify, with the stated paragraph found in 327 IAC 15-4-3(g)(3), a submitted SWQMP-Part A: Initial Application checklist form.*"

A qualified professional and the MS4 operator must sign the certification paragraph found in 327 IAC 15-4-3(g)(3), which is also contained in the SWQMP-Part A: Initial Application checklist form. Both individuals must sign the certification, because the roles of each position may be different. The qualified professional is a technical person with knowledge of storm water control technologies and implementation, and the MS4 operator is the person managing the storm water program. The qualified professional and MS4 operator can be the same person, depending on the MS4 operator's experience with storm water controls. If the two positions are the same person, either the signature can be the same in the appropriate signature blanks, or the term "same as MS4 operator" can be printed in the qualified professional signature blank.

"(k) The department shall review initially submitted NOI letters and SWQMP-Part A: Initial*

Applications for adequacy, and shall assign each NOI letter an NPDES permit number. Either a written NOD letter requesting additional information, or NOS letter containing the assigned NPDES permit number shall be returned to the MS4 operator within ninety (90) days of the NOI letter submittal. If the MS4 operator does not receive either a NOD letter or NOS letter within ninety (90) days of the NOI letter submittal, the NOI letter and SWQMP-Part A: Initial Application will be considered adequate."

Once an NOI letter and SWQMP-Part A: Initial Application are received by IDEM, staff will review the information for completeness and assign an NPDES permit number. Some minor deficiencies may be corrected via a telephone call, while more substantial omissions will require a response to a NOD letter. Once adequate, a NOS letter, in most cases, will be mailed to the identified MS4 operator that contains the NPDES permit number. However, the compliance time table associated with this rule begins from the receivership date of the NOI letter submittal.

""*(l) Responses to NOD letters shall be made by the recipient within thirty (30) days of the date on the NOD letter.*"

If an NOD letter is mailed, the recipient will have 30 days to provide the deficient information to IDEM. If a recipient response is not received by IDEM within 30 days, the MS4 operator, and possibly the MS4 entities seeking coverage under the NOI letter, may be subject to enforcement action.

""*(m) Forms for the NOI letter, SWQMP, annual report, and required certifications shall be provided by the department.*"

IDEM has created state forms for many of the required submittals. The state forms, which are included in Appendix A of this guidance document, include: (1) NOI letter and SWQMP-Part A: Initial Application; (2) SWQMP-Part B: Baseline Characterization and Report certification checklist; (3) SWQMP-Part C: Program Implementation certification checklist; (4) annual report; (5) monthly construction site summary report; (6) public education and outreach minimum control measure certification letter; (7) public involvement and participation minimum control measure certification letter; (8) illicit discharge detection and elimination minimum control measure certification letter; (9) construction site storm water run-off control minimum control measure certification letter; (10) postconstruction storm water run-off control for new development and redevelopment minimum control measure certification letter; and (11) pollution prevention and good housekeeping for municipal operations minimum control measure certification letter.

However, these state forms do not cover all aspects of this rule's requirements. Relevant regulatory mechanisms, such as ordinances, and the actual SWQMP-Part B: Baseline Characterization and Report and SWQMP-Part C: Program Implementation are not state

forms. Due to the uniqueness associated with them and the need to ensure sufficient flexibility in the development of a storm water program, these documents, or samples of them, are not provided in this guidance document.

SECTION 7 (327 IAC 15-13-7)
SWQMP-"PART B: BASELINE CHARACTERIZATION AND REPORT" REQUIREMENTS

"(a) An MS4 operator shall characterize the water quality of all known waters of the state that receive storm water outfall discharges within the MS4 area. This characterization may begin with the receiving waters identified in the NOI letter submittal, and, as receiving waters are identified, the characterization shall be expanded to those additional receiving waters and the subsequent information presented in the corresponding annual report, required under section 18 of this rule. The water quality characterization must utilize existing or new information that may describe the chemical, biological, or physical condition of the MS4 area water quality. If monitoring is conducted as part of the characterization, the monitoring of receiving waters shall be either at, or in proximity to, all known, or representative, storm water outfall discharges.*"

Characterize, plan, select, implement, and evaluate

The minimum purpose of the characterization is to identify receiving waters and associated storm water outfalls, other pollutant sources, and existing water quality problems that need to be addressed by the MS4 area storm water quality management plan. The characterization is one of the initial tools for planning, by identifying impacted receiving waters and prioritizing investigative and corrective resources. MS4 entities will conduct a thoughtful planning process leading to a targeted program. Permittees will characterize their water quality, plan a program that meets local needs and concerns, select appropriate BMPs, implement those BMPs and evaluate the success of their program.

The characterization can be done visibly, with the use of existing historical data. However, to show more tangible water quality improvements, monitoring may be appropriate. If monitoring is conducted, the purpose of the characterization is to collect "baseline" water quality data, and to track progress on water quality improvements and the effectiveness of the best management practices implemented as part of the MS4 area storm water quality management plan. Depending on the desired type of improvement tracking, monitoring can be conducted at the point of discharge or in the receiving water. To share resources and reduce cost, monitoring can be conducted jointly, for example with IDEM or another regulated MS4 entity that is contiguous and shares a common receiving water or discharge outfall. Various characterization options are available as a means for regulated MS4 entities to characterize and evaluate their Phase II programs.

(1) No sampling

Background: The Federal Register does not require sampling, and leaves the decision to permitting authorities and MS4 entities to determine the most appropriate way to evaluate their program.

Pro: No sampling makes it easier for MS4 entities to comply. Sampling and analytical costs could be burdensome. Sampling calls into question the capabilities of automatic samplers and the safety of crews trying to gather samples during wet weather. Staffing to collect and review the sampling data may be inadequate.

Con: Potential reporting difficulties to U.S. EPA in the future. In ten years, U.S. EPA must report to congress on the overall effectiveness of the Phase II program. Without analytical data, it may be difficult to measure program effectiveness and water quality improvements. As an example, the U.S. EPA is developing construction site effluent limitation guidelines because measuring water quality improvements has been difficult in the construction site storm water run-off control program.

(2) Utilize existing data

Background: Limited ambient monitoring data already exists from the state and other groups.

Pro: No analytical costs to MS4 entities. By not collecting samples, more resources are available for other control implementation measures.
Con: Current data is very limited. Increased compliance risk to MS4 entities if IDEM only uses data collected by someone else to indicate water quality improvement/deficiency. No relationship to BMP effectiveness.

> In addition to the listed methods of characterization, the following reference information may be useful:
>
> IDEM has surface water chemistry data from all of their monitoring programs in the AIMS database. Interested individuals should contact the Surveys Section for that information. Additional biological data is available from IDEM regarding fish community, macroinvertebrate and fish tissue contaminant and sediment contaminant information. This information is available through the Biological Studies Section, and some of this data is in the AIMS database, but the individual program areas are still answering their own data requests.

(3) Collect chemical data from MS4 outfalls

Background: IDEM staff initially proposed end of pipe, chemical monitoring in the draft of Rule 13. MS4 entities would submit a sampling plan after choosing six representative outfalls based on land use types. Each of the land use types has typical pollutant sources and parameters associated with it.

For residential land use areas, the primary inappropriate pollutant sources are sanitary wastewater connections, septic tank effluent, household chemical dumping, laundry wastewater connections, pesticide and fertilizer lawn applications, and construction site dewatering and concrete ready-mix truck washout.

For commercial land use areas, the primary inappropriate pollutant sources are gasoline filling station run-off, vehicle maintenance/repair facility run-off and dumping, laundry wastewater connections, car wash facility connections, pesticide and fertilizer lawn applications, construction site dewatering and concrete ready-mix truck washout, and sanitary wastewater connections.

For industrial land use areas, the primary inappropriate pollutant sources are leaking tanks and pipes, non-contact cooling water connections, and process wastewater connections.

Pro: Outfall chemical analyses sampling is relatively simple, and would characterize the actual MS4 area storm water discharge.

Con: Obtaining a representative sample, and using the collected data to determine appropriate locations and types of BMPs could be difficult (i.e. it may be difficult to trace the source of the pollutant). Analytical cost. Lack of ability to draw conclusions from the collected data (i.e., it may not be possible to determine trends and effectiveness of BMPs). If sampling programs are not continued, then verification of program effectiveness will be difficult.

(4) Collect in-stream biological data

Background: U.S. EPA has suggested looking at biological indicators such as, fish assemblage, macro-invertebrate assemblage, and composite indicators (multiple groups of organisms or taxa) to portray the health of aquatic systems.

Pro: U.S. EPA considers data very useful for MS4 programs. Provides indicators of actual water quality in receiving waters.

Con: Analytical cost. Difficult to collect samples. May take a long time to see improvements. Difficult to attribute data to storm water discharges. No direct correlation to BMP effectiveness.

(5) Collect a combination of chemical, biological and physical data

Background: U.S. EPA encourages permitting authorities to consider a combination of physical, chemical, and biological monitoring. Physical indicators include stream widening/downcutting (change in stream geometry), increased flooding frequency (flow rate magnitude change), and stream temperature monitoring.

Pro: U.S. EPA rates physical indicators as very useful to MS4 programs. Physical indicators are

well-known and understood by the general public.

Con: Analytical cost, depending on the extent of analyses.

(6) Use models to estimate pollutant data

Background: Models are already developed and used to assess storm water BMP effectiveness for various parameters.

Pro: Eliminates variability of sampling. Can be excellent assessment of BMP effectiveness.

Con: Because it typically needs data input from trained modelers, it can be costly. Once data is collected and submitted, it may be difficult for untrained IDEM staff to verify conclusions. To obtain more reliable modeling results, data should be verified (calibrated) with actual samples.

*"*After the baseline characterization data is collected, the MS4 operator shall evaluate the data in the baseline characterization to determine which identified areas or specific discharge points are in need of additional water quality measures. This baseline characterization must include the following:*

(1) An investigation of land usage and assessment of structural and nonstructural storm water BMP locations and conclusions, such as key observation or monitoring locations in the MS4 conveyances, derived from the land usage investigation.

(2) The identification of known sensitive areas, such as public swimming areas, surface drinking water intakes, waters containing threatened or endangered species and their habitat, or state outstanding resource and exceptional use waters. The identified sensitive areas should be given the highest priority for the selection of BMPs and the prohibition of new or significantly increased MS4 discharges.

(3) A review of known existing and available monitoring data of the MS4 area receiving waters, including, as applicable, data that can be correlated from SRCERs.

(4) The identification of areas having a reasonable potential for, or actually, causing storm water quality problems based on the available and relevant chemical, biological, physical, land use, and complaint data.

(5) Assessment results of BMP locations and, as appropriate, the structural condition of the BMP, related to the BMP's effectiveness in improving storm water quality. As appropriate, this assessment should include recommendations for placement and implementation of additional BMPs within the MS4 area."

Baseline characterization data will be evaluated to determine which areas or discharge points are in need of additional water quality measures. The requirements in subdivisions (1) through (5) must be addressed in the baseline characterization. If storm water quality impairment areas or discharge points are identified, measures must be utilized to correct the impairments. Likewise, if sensitive areas or discharge points near sensitive areas are identified, measures must be utilized to provide the maximum possible protection to the

sensitive areas. These additional water quality corrective or protective measures can include any type of appropriate structural best management practice or pollutant source identification and elimination or reduction that results in the improvement of water quality in the identified impairment or sensitive areas.

(1) Land usage information, readily available from local planning departments, is a good, and inexpensive, method of initially characterizing the MS4 area. By identifying residential, commercial, industrial, and open land areas, land usage information can be used to identify the most appropriate visual, chemical, or biological monitoring locations, target educational outreach efforts, assist in new development planning, and aid in the tracing of illicit discharges.

The identification and assessment of nonstructural and structural BMPs is also a useful characterization tool. First, existing BMPs should be identified, and corresponded to locations and drainage areas within the MS4 area. Second, the BMPs, particularly the structural ones, should be assessed to determine if they are operating effectively, according to their design, or include components that address storm water quality. Once this determination is made, BMP recommendations, required in subdivision (5), can be developed to address, and improve, storm water quality.

(2) The identification of sensitive areas is directly related to the purpose statement of this rule: "...public health, existing water uses, and aquatic biota are protected." Identifying sensitive areas is a key first step in protection. Once known, storm water discharges into, or near, the sensitive areas can receive higher prioritization for control measure implementation to ensure that the sensitive areas are adequately protected.

(3) Monitoring data is, or has been, collected from many of the MS4 area receiving waters. Data has been collected by: (1) IDEM for use in classifying impaired receiving waters and establishing Total Maximum Daily Load limitations; (2) local municipalities for use in developing their SRCERs; (3) universities for studying water chemistry; and (4) local organizations (e.g., environmental or citizen groups) for addressing concerns with a waterbody. This data can be used to establish initial water quality conditions, or, depending if the data collection is on-going, create a method of tracking water quality improvements.

(4) The next step after the data collection is to draw some correlations. Using any available data, the identification of areas, or actual sources, causing storm water quality problems is one of the desired goals of the characterization. To make this problem identification, an MS4 entity can use any data, but typically it will be a combination of chemical and biological data review, land use pollutant source probability assessment, storm water-driven complaint investigation, and field observations.

(5) Required in subdivision (1), an assessment of all nonstructural and structural BMPs is

required. After the assessment, the conclusions of the assessment must be provided. In addition to the conclusions, recommendations for placement and implementation of additional BMPs is also required.

"(b) An SWQMP-Part B: Baseline Characterization and Report addressing the requirements of subsection (a) must be developed and submitted to the department at the address specified in section 9(b) of this rule. The SWQMP-Part B: Baseline Characterization and Report and completed corresponding certification form must be submitted no later than one hundred eighty (180) days from the date the initial NOI letter submittal was received by the department, or the expiration date of the previous five (5) year permit term.*"

A SWQMP-Part B: Baseline Characterization and Report, which addresses the requirements of subsection (a) in this rule, must be submitted to IDEM. This submittal, along with the corresponding certification checklist form, must be submitted within 180 days of the date on the NOI letter submittal. If appropriately justified in writing prior to the expiration of the 180-day period, an extension of time may be granted by IDEM to complete the Part B. Extension requests greater than 60 additional days will, however, not be allowed. Any granted time extensions will not be reason to delay the future submittal of information required with the SWQMP-Part C: Program Implementation.

"(c) The department shall review the SWQMP-Part B: Baseline Characterization and Report for adequacy, and a written NOS letter or NOD letter shall be issued to the MS4 operator. If no letter is issued within ninety (90) days of submittal, the SWQMP-Part B: Baseline Characterization and Report is deemed sufficient.*"

Once the SWQMP-Part B: Baseline Characterization and Report is received by IDEM, staff will review the information for completeness. Some minor deficiencies may be corrected via a telephone call, while more substantial omissions will require a response to a NOD letter. Once adequate, a NOS letter, in most cases, will be mailed to the identified MS4 operator.

"(d) Responses to NOD letters shall be made by the recipient within thirty (30) days of the date on the NOD letter.*"

If an NOD letter is mailed, the recipient will have 30 days to provide the deficient information to IDEM. If a recipient response is not received by IDEM within 30 days, the MS4 operator, or, where responsibilities for completing the SWQMP-Part B: Baseline Characterization and Report are documented in legally binding agreements, the MS4 entities provided coverage under the NOI letter, may be subject to enforcement action. If appropriately justified in writing prior to the expiration of the 30-day period, an extension of time may be granted by IDEM to complete the deficiencies. Extension requests greater than 60 days from receipt of the NOD letter will, however, not be allowed. Any granted time extensions will not be reason to delay the future submittal of information required

with the SWQMP-Part C: Program Implementation.

"(e) On-going data collection related to the SWQMP-Part B: Baseline Characterization and Report must be submitted to the department with the corresponding annual report.*"

One of the purposes of the annual report is to report on-going data collection. As information is gathered on receiving water quality, land usage, or other relevant characterization data, it must be included in the annual report corresponding to the data collection. After all receiving waters have been identified and appropriately characterized, on-going data collection, especially analytical data, could provide a useful indication of improvements or trends in MS4 area receiving water quality.

"(f) A qualified professional and the MS4 operator shall certify, with the stated paragraph found in 327 IAC 15-4-3(g)(3), a submitted SWQMP-Part B: Baseline Characterization and Report checklist form.*"

A qualified professional and the MS4 operator must sign the certification paragraph found in 327 IAC 15-4-3(g)(3), which is also contained in the SWQMP-Part B: Baseline Characterization and Report checklist form. Both individuals must sign the certification, because the roles of each position may be different. The qualified professional is a technical person with knowledge of storm water control technologies and implementation, and the MS4 operator is the person managing the storm water program. The qualified professional and MS4 operator can be the same person, depending on the MS4 operator's experience with storm water controls. If the two positions are the same person, either the signature can be the same in the appropriate signature blanks, or the term "same as MS4 operator" can be printed in the qualified professional signature blank. By signing the checklist form, the qualified professional and MS4 operator are agreeing that all the items in the checklist, which correspond to the rule requirements, have been adequately addressed by the MS4 entity or entities covered by the NOI letter.

SECTION 8 (327 IAC 15-13-8)
SUBMITTAL OF A SWQMP-"PART C: PROGRAM IMPLEMENTATION"

"(a) An MS4 operator shall develop and implement a SWQMP-Part C: Program Implementation. The SWQMP-Part C: Program Implementation must contain the following:*

(1) An initial evaluation of the storm water program for the MS4 area. This evaluation should include information on all known structural and nonstructural storm water BMPs utilized.

(2) A detailed program description for each minimum control measure (MCM) referenced in sections 12 through 17 of this rule.

(3) A timetable for program implementation milestones, which includes milestones for each of the MCMs referenced in sections 12 through 17 of this rule, and applicable SWQMP-Part B: Baseline Characterization and Report conclusions (BMP

recommendations, additional protective measures for sensitive areas, and correcting identified water quality problems).
(4) As appropriate, a schedule for on-going characterization of the receiving waters either at, or in proximity to, outfall locations identified in the SWQMP-Part B: Baseline Characterization and Report to evaluate BMP effectiveness and receiving water quality.
(5) A narrative and mapped description of the MS4 area boundaries that indicate responsible MS4 entity areas for each MCM. The narrative description must include the specific sectional or, as appropriate, the street name, boundaries of the MS4 area.
(6) An estimate of the linear feet of MS4 conveyances within the MS4 area, segregated by MS4 type, for example, by open ditch or pipe.
(7) A summary of which structural BMP types will be allowed in new development and redevelopment for the MS4 area.
(8) A summary on storm water structural BMP selection criteria and, where appropriate, associated performance standards that must be met after installation to indicate BMP effectiveness.
(9) A summary of the current storm water budget, expected or actual funding source, and a projection of the budget for each year within the five (5) year permit term.
(10) A summary of measurable goals for, at a minimum, each MCM referenced in sections 12 through 17 of this rule. These measurable goals shall demonstrate results that relate to an environmental benefit.
(11) Completed certification forms, as appropriate, for each MCM. The certification forms only need to be completed and submitted during the initial five (5) year permit term.
(12) The identification of programmatic indicators. Programmatic indicators, grouped by corresponding MCM, must include those listed in subsection (b) that apply to the MS4 operator. Other relevant indicators may be used in place of those listed in subsection (b). If an indicator listed in subsection (b) is not applicable to the operator, or if an other relevant indicator is used, the operator shall provide rationale for the non-identification or substitution. Programmatic indicators do not need to be fully implemented at the time of the SWQMP-Part C: Program Implementation submittal. Updated data for each of these indicators must be submitted in each annual report."

(1) An initial evaluation of the storm water program must be reported. The purpose of this evaluation is to determine a "starting point" for the program, and, depending on the correlation of the existing program, to obtain "credit" for activities that can be relevant to storm water quality. A portion of this evaluation should include a review, or enhancement, of the information pertaining to nonstructural and structural BMPs provided in the SWQMP-Part B: Baseline Characterization and Report. The identification ,assessment, and recommendations concerning nonstructural and structural BMPs are one component of the initial evaluation.

(2) Each of the six minimum control measures referenced in sections 12 through 17 of this rule requires that a component of the MS4 area storm water program be developed to

address that particular control measure. Sections 12 through 17 provide the minimum conditions of the storm water program for these control measures, but the rule also provides enormous flexibility to account for variability of local conditions. The program created to address each control measure should be relatively unique to the MS4 entity, or MS4 area. The detailed program description should be based on the unique local conditions, and reflective of local implementation timetables.

(3) Implementation milestones for each of the six minimum control measures referenced in sections 12 through 17 of this rule must be provided. Within the general time frames established by section 11 of the rule, the milestones are determined by the MS4 entity, and based on local implementation timetables. If applicable, implementation milestones must also be provided for conclusions and recommendations provided in the SWQMP-Part B: Baseline Characterization and Report.

(4) If on-going characterization of the receiving waters is going to conducted, the scheduling of this characterization must be provided. If on-going characterization data will not be collected or analyzed, this component of the SWQMP-Part C: Program Implementation will not need to be addressed. However, it is recommended that some form of tracking water quality improvements be conducted to document the effectiveness of the MS4 area storm water program. One of the desired outcomes of this rule is to be able to correspond the implementing of a local BMP-driven storm water quality management program to an environmental improvement, or benefit.

(5) The boundaries of the MS4 area must be provided. The purpose of this boundary determination is to relay to IDEM the exact coverage area for the MS4 entity. In most situations, the boundary will be determined by the extent of the MS4 entity's jurisdictional area. However, in some instances, the MS4 area boundary may be identified by other means, such as the extent of a corresponding urbanized area. The boundaries may also vary according to minimum control measure. For example, a regulated county may implement a county-wide program addressing construction site storm water run-off control or public education, but, in contrast, implement a program for illicit discharge detection and elimination in only the mapped urbanized area within their county. These boundary differences based on minimum control measure must also be provided in a narrative format.

(6) An estimate of the linear feet of MS4 conveyances within the MS4 area must be provided. This estimate will be used to determine the amount of MS4 conveyances to be mapped each year for compliance. The rule requirement is for 25 % of the conveyance system identified in section 14 or this rule to be mapped each year, in years two through five, of the first permit term.

(7) In the development of storm water quality ordinances, policies, or planning documents, postconstruction storm water run-off control in new development and

redevelopment will need to be addressed. In order to establish these local requirements, it will be necessary to determine the types of structural BMPs that will be most appropriate for the MS4 area. There is a variety of structural BMPs that may be used to improve storm water quality. Based on local conditions (e.g., space for placement of BMPs, expected pollutant types and quantities, soil characteristics, land slopes), some of these BMP types will be more effective than others. This rule requirement allows the MS4 entity to choose which structural BMPs would be most effective in their MS4 area, and to relay that choice to IDEM.

(8) As the most appropriate types of structural BMPs are determined, a criteria for BMP selection should be established that explains the conditions under which each approved structural BMP may be used. As potential pollutant sources and estimated volumes are identified, performance standards for each approved structural BMP should be provided. The performance standards would explain the expected pollutant reduction by each approved structural BMP, and require any installed BMP, with appropriate maintenance, to meet the established standard after installation. The performance standards could be extracted from BMP vendor information, but, prior to stating the standard to IDEM, the standard should be adjusted, as necessary, using local conditions for accuracy.

(9) A current and projected budget, with expected or actual funding sources, must be provided. Resources used for developing and implementing an MS4 entity's storm water program must be documented to ensure that monies, equipment, and staff are being, and will be, utilized for the storm water program. This resource budgetary information can be estimated, especially in situations where the resources are not separated by function or the functions are overlapping. Funding sources must also be provided so IDEM can track and compile funding information across the state. The consolidated funding information will be available from IDEM, and will be accessible to MS4 entities to obtain potential options for future funding.

(10) As alluded to in subdivisions (2) and (3), the six minimum control measures are all components of an MS4 entity's storm water program. As part of this program, an MS4 entity must develop attainable goals for each of these components. The goals are determined by the MS4 entity, and must be related to accomplishing an environmental benefit. Examples of goals are provided in this guidance document within the sections corresponding to sections 12 through 17 of the rule.

(11) Certification forms, available from IDEM, must be signed and submitted to IDEM within the time frame specified in section 11 of the rule. By signing the certification forms, which correspond to each of the six minimum control measures, an MS4 operator and qualified professional are agreeing that a program corresponding to each control measure has been implemented within the required timetable. This certification submittal is only necessary to establish the initial implementation of each control measure, and, therefore, only needs to be submitted during the first five-year permit term.

(12) A listing of programmatic indicators must be developed and provided to IDEM. Subsection (b) provides a minimum listing that an MS4 entity must address and track with data collection. However, if any of the indicators listed in the rule are not utilized or other indicators are substituted, the rationale for the change must be provided. Throughout the term of the permit, indicators can be adjusted to be more reflective of local conditions and practices. These adjustments, and the data collection for each of the selected indicators, must be provided in the corresponding annual report submittal to IDEM.

"(b) The programmatic indicators must address the following:*

(1) Number or percentage of citizens, segregated by type of constituent as referenced in section 12(a) of this rule, that have an awareness of storm water quality issues.

(2) Number and description of meetings, training sessions, and events conducted to involve citizen constituents in the storm water program.

(3) Number or percentage of citizen constituents that participate in storm water quality improvement programs.

(4) Number and location of storm drains marked or cast, segregated by marking method.

(5) Estimated or actual linear feet or percentage of MS4 mapped and indicated on an MS4 area map.

(6) Number and location of MS4 area outfalls mapped.

(7) Number and location of MS4 area outfalls screened for illicit discharges.

(8) Number and location of illicit discharges detected.

(9) Number and location of illicit discharges eliminated.

(10) Number of, and estimated or actual amount of material, segregated by type, collected from, HHW collections in the MS4 area.

(11) Number and location of constituent drop-off centers for automotive fluid recycling.

(12) Number or percentage of constituents that participate in the HHW collections.

(13) Number of construction sites obtaining an MS4 entity-issued storm water run-off permit in the MS4 area.

(14) Number of construction sites inspected.

(15) Number and type of enforcement actions taken against construction site operators.

(16) Number of, and associated construction site name and location for, public informational requests received.

(17) Number, type, and location of structural BMPs installed.

(18) Number, type, and location of structural BMPs inspected.

(19) Number, type, and location of structural BMPs maintained or improved to function properly.

(20) Type and location of nonstructural BMPs utilized.

(21) Estimated or actual acreage or square footage of open space preserved and mapped in the MS4 area, if applicable.

(22) Estimated or actual acreage or square footage of pervious and impervious surfaces mapped in the MS4 area, if applicable.

(23) Number and location of new retail gasoline outlets or municipal, state, federal, or institutional refueling areas, or outlets or refueling areas that replaced existing tank systems that have installed storm water BMPs.
(24) Number and location of MS4 entity facilities that have containment for accidental releases of stored polluting materials.
(25) Estimated or actual acreage or square footage, amount, and location where pesticides and fertilizers are applied by a regulated MS4 entity to places where storm water can be exposed within the MS4 area.
(26) Estimated or actual linear feet or percentage and location of unvegetated swales and ditches that have an appropriately-sized vegetated filter strip.
(27) Estimated or actual linear feet or percentage and location of MS4 conveyances cleaned or repaired.
(28) Estimated or actual linear feet or percentage and location of roadside shoulders and ditches stabilized, if applicable.
(29) Number and location of storm water outfall areas remediated from scouring conditions, if applicable.
(30) Number and location of deicing salt and sand storage areas covered or otherwise improved to minimize storm water exposure.
(31) Estimated or actual amount, in tons, of salt and sand used for snow and ice control.
(32) Estimated or actual amount of material by weight collected from catch basin, trash rack, or other structural BMP cleaning.
(33) Estimated or actual amount of material by weight collected from street sweeping, if utilized.
(34) If applicable, number or percentage and location of canine parks sited at least one hundred fifty (150) feet away from a surface waterbody."

The programmatic indicators listing in subdivisions (1) through (34) represent the minimum indicators that must be addressed by the MS4 entity. Some of the indicators may not be appropriate for every MS4 entity, and, with provided rationale, do not need to be listed in the MS4 entity's indicator list developed as part of the SWQMP-Part C: Program Implementation. The listed indicators were selected from the various requirements found in sections 12 through 17 of the rule. Other indicators, more appropriate for the MS4 entity, can be utilized in place of, or addition to, the 34 listed indicators.

""*(c) An SWQMP-Part C: Program Implementation and completed corresponding certification form must be submitted to the department within three hundred sixty-five (365) days from the date the initial NOI letter submittal was received by the department, or the expiration date of the previous five (5) year permit term.*"

A SWQMP-Part C: Program Implementation, which addresses the requirements of subsections (a) and (b) in this rule, must be submitted to IDEM. This submittal, along with the corresponding certification checklist form, must be submitted within 365 days of

the date on the NOI letter submittal. If appropriately justified in writing prior to the expiration of the 365-day period, an extension of time may be granted by IDEM to complete the Part B. Extension requests greater than 60 additional days will, however, not be allowed.

"(d) The department shall review submitted SWQMP-Part C: Program Implementations for adequacy. Either a written NOD letter requesting additional information, or NOS letter shall be sent to the MS4 operator within ninety (90) days of the SWQMP-Part C: Program Implementation submittal. If no letter is issued within ninety (90) days of submittal, the plan is deemed sufficient.*"

Once the SWQMP-Part C: Program Implementation is received by IDEM, staff will review the information for completeness. Some minor deficiencies may be corrected via a telephone call, while more substantial omissions will require a response to a NOD letter. Once adequate, a NOS letter, in most cases, will be mailed to the identified MS4 operator.

"(e) Responses to NOD letters must be made by the recipient within thirty (30) days of the date on the NOD letter.*"

If an NOD letter is mailed, the recipient will have 30 days to provide the deficient information to IDEM. If a recipient response is not received by IDEM within 30 days, the MS4 operator, or, where responsibilities for completing the SWQMP-Part C: Program Implementation are documented in legally binding agreements, the MS4 entities provided coverage under the NOI letter, may be subject to enforcement action. If appropriately justified in writing prior to the expiration of the 30-day period, an extension of time may be granted by IDEM to complete the deficiencies. Extension requests greater than 60 days from receipt of the NOD letter will, however, not be allowed.

"(f) As conditions or allowed technologies change, the SWQMP-Part C: Program Implementation must be updated. When updates are created, relevant sections of the SWQMP-Part C: Program Implementation containing the updates must be submitted to the commissioner as an attachment to the corresponding annual report, required under section 18 of this rule.*"

The SWQMP-Part C: Program Implementation should be a constantly changing document. As conditions change with technologies or the MS4 entity or entities, original plans for implementation may need revisions. The submittal of these updates to the plan allow the MS4 entity or entities to be more flexible, and provide the ability to adjust plans based on newly acquired information.

"(g) A qualified professional and the MS4 operator shall certify, with the stated paragraph found in 327 IAC 15-4-3(g)(3), a submitted SWQMP-Part C: Program Implementation checklist form.*"

A qualified professional and the MS4 operator must sign the certification paragraph found in 327 IAC 15-4-3(g)(3), which is also contained in the SWQMP-Part C: Program Implementation checklist form. Both individuals must sign the certification, because the roles of each position may be different. The qualified professional is a technical person with knowledge of storm water control technologies and implementation, and the MS4 operator is the person managing the storm water program. The qualified professional and MS4 operator can be the same person, depending on the MS4 operator's experience with storm water controls. If the two positions are the same person, either the signature can be the same in the appropriate signature blanks, or the term "same as MS4 operator" can be printed in the qualified professional signature blank. By signing the checklist form, the qualified professional and MS4 operator are agreeing that all the items in the checklist, which correspond to the rule requirements, have been adequately addressed by the MS4 entity or entities covered by the NOI letter.

SECTION 9 (327 IAC 15-13-9)
SUBMITTAL OF AN NOI LETTER AND OTHER DOCUMENTS

"(a) All information required under section 6 of this rule must be submitted to the commissioner. An MS4 entity that meets the designation criteria under section 3 of this rule shall submit the NOI letter, SWQMP-Part A: Initial Application, and other required documentation no later than ninety (90) days from the effective date of this rule, unless:*

(1) written permission for a later date has been granted by the commissioner; or

(2) the MS4 entity was not notified in writing at least one hundred eighty (180) days prior to the effective date of this rule."

The NOI letter and SWQMP-Part A: Initial Application must be submitted to IDEM within 90 days of this rule's effective date, unless the conditions in subdivisions (1) or (2) apply.

"(b) A termination request, the NOI letter, Parts A, B, and C of the SWQMP, and any other required information must be submitted to:*

Indiana Department of Environmental Management
Office of Water Quality, Urban Wet Weather Section
Rule 13 Storm Water Coordinator
100 North Senate Avenue, Room 1255
P.O. Box 6015
Indianapolis, Indiana 46206-6015."

Any information pertaining to this rule which is submitted to IDEM must be addressed to the Rule 13 Storm Water Coordinator. This specificity will provide more timely receivership and processing of the information.

"(c) The permit and the compliance schedules of this rule become effective upon receipt of the*

initial NOI letter by the department."

The time tables referenced in this rule become effective on the date of NOI letter receivership by IDEM. From this receipt date, the compliance schedule begins, and the time tables for required submittals originate. As an example, the SWQMP-Part B: Baseline Characterization and Report is due 180 days from the NOI letter receivership date. When responding to NOI letters, the receivership date will be included in the NOS letter.

""*(d) The commissioner may deny coverage under this rule and require submittal of an application for an individual NPDES permit based on a review of the NOI letter or other information. This review may consider the location and size of the discharge, the quantity and nature of the pollutants discharged, and other relevant factors. Before completing the review, the department will inform the MS4 entity as to what information is being used for the review, and provide the MS4 entity an opportunity to respond if the MS4 entity believes the information used is inaccurate or incomplete.*"

During the review of submitted information, IDEM may conclude that conditions associated with the MS4 entity requesting permit coverage under this rule are inappropriate for a general permit. In these situations, a more reflective, tailored individual MS4 permit could be requested by IDEM. The rationale used by IDEM to make this determination would be provided to the MS4 entity asked to submit an individual MS4 permit application.

""*(e) An MS4 entity that either was not notified in writing at least one hundred eighty (180) days prior to the effective date of this rule, or meets the designation criteria of section 3 of this rule after the effective date of this rule due to changing conditions or new facility construction, shall submit the required information under section 6 of this rule, within three hundred sixty-five (365) days of either:*

(1) the date of receivership on the written notification;

(2) becoming aware of the relevant changed conditions; or

(3) upon the initiation of facility operations,

unless written permission for a later date has been granted by the commissioner."

Prior to the effective date of this rule, most applicable MS4 entities were notified in writing that they would be designated under this rule. However, based on the availability of additional information, some MS4 entities were not notified within the 180-day period prior to the effective date of the rule. In these situations and for new or existing MS4 entities that meet the designation criteria after the effective date of the rule, a period of 365 days is allowed to prepare and submit an NOI letter and SWQMP-Part A: Initial Application to IDEM. Examples of new facility construction are correctional facilities, hospitals, or universities and colleges that are built or expanded to such a capacity, or in such a location, that they meet one of the designation criteria in this rule.

"(f) Any person who knowingly makes any false statement, representation, or certification in any document submitted or required to be maintained under this rule is subject to 327 IAC 15-4-3(i).*"

All information submitted to IDEM must be accurate and true. If information provided to IDEM is knowingly false, the person making the misrepresentation, upon conviction, is subject to fines up to $10,000 per violation, and/or imprisonment for up to 6 months per violation.

SECTION 10 (327 IAC 15-13-10)
MS4 PERMIT IMPLEMENTATION; COORDINATION WITH TOTAL MAXIMUM DAILY LOAD ALLOCATIONS

*"*If a total maximum daily load (TMDL) is approved for any waterbody into which an MS4 conveyance discharges, the MS4 operator must review and appropriately modify Parts B and C of their SWQMP if the TMDL includes requirements for control of storm water discharges under the jurisdiction of the MS4 operator.*"

A TMDL study is likely to be conducted on, at least, one receiving water for most of the regulated MS4 entities within the lifetime of their permits issued under Rule 13. When these studies are completed and approved, storm water discharges could be given a loading limit for pollutant parameters that are causing impairment to the receiving water. An MS4 entity may be required to modify their SWQMP-Part B: Baseline Characterization and Report and SWQMP-Part C: Program Implementation to further identify and reduce, or eliminate, the possible sources of the limiting pollutant parameters. If sources can not be identified, treatment controls appropriate for the pollutant may be necessary.

SECTION 11 (327 IAC 15-13-11)
COMPLIANCE SCHEDULE

*"*An MS4 operator shall comply with the following schedule for implementation of this rule:*

Rule Requirement	*Compliance Deadline (from initial NOI letter receivership date)*
Storm Water Quality Management Plan:	*Components throughout term of permit*
Part A: Initial Application submitted	*With NOI letter*
Part B: Baseline Characterization and Report submitted	*180 days*
Part C: Program Implementation submitted	*1 year*
Public Education and Outreach MCM implementation:	*Throughout term of permit*
Public education and outreach program	*1 year*

development certification submitted	
Public Involvement/Participation MCM implementation:	*Throughout term of permit*
Public involvement and participation program development certification submitted	*1 year*
Illicit Discharge Detection/Elimination MCM implementation:	*Throughout term of permit*
Illicit discharge plan and regulatory mechanism certification submitted	*1 year*
25 percent of storm water outfalls systems mapped	*Each year after 1 year*
All known storm water outfall systems, with pipe diameters 12 inches or greater or open ditches with 2 feet or larger bottom width, mapped	*5 years*
Construction Site Run-Off Control MCM implementation:	*Throughout term of permit*
Construction site program plan and regulatory mechanism certification submitted	*1 year*
Postconstruction Run-Off Control MCM implementation:	*Throughout term of permit*
Operational and maintenance plan certification submitted	*2 years*
Postconstruction program plan and regulatory mechanism certification submitted	*2 years*
Municipal operations pollution prevention and good housekeeping MCM implementation:	*Throughout term of permit*
Operations pollution prevention program development certification submitted	*1 year*

If an MS4 operator is unable to meet a compliance deadline under this section the operator shall submit a written request and justification for extending the deadline. The request must be submitted to the department no later than thirty (30) days prior to the due date."

According to the compliance table, all ordinances, or similar regulatory mechanisms, must be developed and implemented no later than two (2) years from the submission of the NOI letter.

The compliance schedule, and the appropriate rule sections related to each specific MCM, depict the timetable for development and implementation of each required ordinance, or similar regulatory mechanism. All ordinances or similar regulatory mechanisms, except for the one related to the post-construction MCM described in section 16 of the rule, must be developed and implemented no later than one (1) year from the submission of the NOI

letter. As soon as the corresponding state-issued certification forms (APPENDIX A) are submitted to IDEM, the MS4 operator is expected to begin implementation of the appropriate MCM(s).

The exception is related to the post-construction MCM, which allows for development and implementation within two (2) years. The intent of the post-construction MCM extension is to allow MS4 operators more time, by developing a SWQMP-"Part C" first, and, based on the implementation plan, to determine appropriate best management practices to recommend.

SECTION 12 (327 IAC 15-13-12)
SWQMP PUBLIC EDUCATION AND OUTREACH MCM

"(a) An MS4 operator shall develop an SWQMP that includes methods and measurable goals that will be used to inform residents, visitors, public service employees, commercial and industrial facilities, and construction site personnel within the MS4 area about the impacts polluted storm water run-off can have on water quality and ways they can minimize their impact on storm water quality. The MS4 operator shall ensure, via documentation, that a reasonable attempt was made to reach all constituents within the MS4 area to meet this measure.*"

All constituents within the MS4 area with the potential to impact the quality of the storm water must be informed of the effects of their impact and ways they can minimize that impact. IDEM does not expect that every single person will be informed, especially visitors. However, attempts to reach everyone must be documented. This attempt could be accomplished by targeted outreach. For example, setting up, and documenting attendance for, storm water workshops for developers, construction company leaders and industrial or commercial facility managers.

"(b) MS4 operators are encouraged to utilize existing programs and outreach materials to meet this measure. MS4 operators shall identify and implement an informational program with educational materials for constituents. A certification form shall be completed and submitted to the department once the program has been developed and implemented, or three hundred sixty-five (365) days from the date the initial NOI letter submittal was received by the department, whichever is earlier. In subsequent permit terms, the certification form does not need to be completed and submitted. At a minimum, every five (5) years the program shall be reviewed for adequacy and accuracy, and updated, as necessary.*"

The primary purposes of the public education and outreach program are to develop and document an awareness by the MS4 area constituency, and to avoid duplication of outreach efforts. As an example of preventing duplicated efforts, a municipality which lies in a county that has a known county-wide outreach program can take credit for the county program, assuming the county program addresses storm water quality issues. However, in this example, the municipality may still conduct outreach separate from the

county for a greater impact.

Educational materials may include the following:
(1) Brochures or fact sheets for general public and specific audiences.
(2) Recreational guides to educate groups such as golfers, hikers, paddlers, fishermen, and campers.
(3) Alternative information sources, such as web sites, stickers, magnets, and posters.
(4) Radio and television advertisements to promote improvement of storm water quality.
(5) Library of educational materials.
(6) Volunteer citizen educators.
(7) Event participation with displays at community festivals.
(8) Educational programs/curricula for school-age children.
(9) Marking of storm drains to inform the general public to stop dumping wastes into the drain. It is encouraged that for new construction projects, local specifications require the use of cast messages in storm drain covers.
(10) Storm water hotlines for information and citizen reporting of polluters.
(11) Economic incentives, such as rebates to homeowners for purchasing biodegradable, non-toxic products.
(12) Educational initiatives for reducing and handling pet and lawn wastes, and their impact on storm water quality.
(13) Educational initiatives for proper application of pesticides, herbicides, and fertilizers.
(14) Roadside signage to increase awareness of dumping impacts on storm water quality.
(15) Tributary signage to increase awareness of local water resources, cautioning fishing or swimming near storm sewer outfalls.

"(c) MS4 operators shall develop measurable goals for this MCM. An initial assessment of the MS4 area constituents must be conducted to determine initial constituent knowledge and practices as they relate to storm water quality. To comply with this measure, specific target outreach or reduction goal percentages and timetables must be identified. As applicable or, if not applicable, then appropriately justified, goals must address relevant targeted audience improvement in disposal practices, cast storm drain cover installations, school curricula or web site implementation, outreach to every population sector, and educational material distribution.*"

The assessment can consist of a public survey. To indicate progress in constituent awareness, the assessment can be periodically conducted. To have meaningful comparisons, the assessment should be repeatable [i.e., same survey questions, same method of providing the survey (phone, in-person, etc.) and same location for giving the survey (table at a grocery store, car-to-car at a household hazardous waste drop-off site, etc.)] and given to approximately the same group of constituency (for example, age, gender, geographic surroundings, and ethnicity). Different types of surveys can include phone, mail, in-person, and web. One important feature on these surveys could be a contact "hotline" to report storm water quality problems and get more information about the MS4 area's storm water program. A survey template is included in this guidance

document under Appendix C.

The following hypothetical examples illustrate how measurable goals could be used to track and document program effectiveness at reducing pollutants. IDEM does not attempt to develop guidance on measurable goals for every potential BMP, and the following list of measurable parameters is not comprehensive. The list is intended to serve as a guide.

CLASSROOM EDUCATION ON STORM WATER ! The number of educational materials distributed to schools. ! The number of classes, schools, or students that participate in municipal-sponsored storm water workshops or activities. ! The number of workshops held for teachers on storm water education. ! The number of certificates or other rewards given out for classes/students who participate in storm water education. ! The number of students receiving storm water education as a regular part of the school curriculum. ! The number of students receiving storm water education as part of after-school programs.

EDUCATION/OUTREACH FOR COMMERCIAL ACTIVITIES ! The number of educational materials that were distributed to business owners and operators. ! The number of certified businesses that participated in training for a "green certification" program. ! The number of businesses trained under a training program.

EDUCATIONAL DISPLAYS, PAMPHLETS, BOOKLETS, AND UTILITY STUFFERS ! List compiled of target audiences and possible activities for each. ! The number of materials created and distributed. ! The number of events attended with displays. ! The number of people at an event who saw the display (guest book) or took a pamphlet/booklet.

LAWN AND GARDEN ACTIVITIES ! The number of partnerships established with local lawn care businesses. ! The number of partnerships established with lawn care suppliers/retail stores. ! The number of municipal employees trained in proper lawn care practices. ! The number of homeowners that attend training workshops for lawn/garden care BMPs. ! A survey of homeowners about their lawn care behavior before and after message is delivered. ! Fertilizer and pesticide residues in run-off. ! The number of requests for soil testing.

LOW IMPACT DEVELOPMENT ! The number of meetings held to educate citizens and developers about low impact development. ! The percentage of land use codes reviewed to ensure consistency with low impact development principles and practices. ! The number of new site plans that incorporate low impact development principles and practices. ! The number of municipal-owned facilities that are retrofitted with low impact development practices.

PET WASTE MANAGEMENT ! Whether or not a pet waste ordinance was developed. ! The number of "clean up after your pet" signs posted in parks and neighborhoods. ! The number of dog-walking designated areas in parks. ! Nutrient and bacteria levels in run-off. ! The number of citations given under an enforcement program. ! The number of posters/brochures put up in pet supply stores. ! The number of educational materials given out to pet owners.

POLLUTION PREVENTION FOR BUSINESSES ! [See Education/Outreach for Commercial Activities]

PROMOTIONAL GIVEAWAYS ! The number of items given out. ! The number of events attended (to give out items). ! The number of partnerships with radio and TV stations for promotions.

PROPER DISPOSAL OF HOUSEHOLD HAZARDOUS WASTES ! The pounds of household hazardous waste collected on amnesty days. ! The number of pickup days per year. ! The number of educational materials distributed to homeowners. ! The number of partnerships established with businesses. ! The number of curbside pickup days. ! Toxic chemical levels in receiving waters.

STORM WATER EDUCATIONAL MATERIALS ! (See Educational Displays, Pamphlets, Booklets, and Utility Stuffers)

TAILORING OUTREACH PROGRAMS TO MINORITY AND DISADVANTAGED COMMUNITIES AND CHILDREN ! The number of brochures/posters created in non-English languages. ! The number of partnerships established with minority organizations. ! Attendance at workshops or public meetings held in low-income or minority neighborhoods. ! The number of educational materials distributed to low-income neighborhoods.

TRASH MANAGEMENT ! The mass of trash removed from conveyance systems and receiving waters during cleanup campaigns. ! The number of structural trash controls installed. ! Floatables in receiving waters. ! Track the number of additional trash bins installed and signage posted. ! Whether or not a litter ordinance was established.

USING THE MEDIA ! The number of public service announcements made on radio and TV. ! The number of storm-water-related press releases. ! The number of storm-water-related articles published.

WATER CONSERVATION PRACTICES FOR HOMEOWNERS ! The number of partnerships established with local water utilities. ! The number of water conservation utility inserts that are distributed with utility bills. ! A survey of homeowners about their water conservation behavior before and after the message is delivered.

The following eight (8) BMP examples can be used to describe typical measurable goals:

BMP 1: Distribute One Residential Pollution Prevention Brochure

Compliance Information: The NPDES Phase II regulations provide guidance regarding specific audiences and types of materials that can be distributed to raise awareness of storm water pollution. However, the regulations note a need to provide targeted education. For the residential brochure, potential topics include:

- Lawn care
- Car maintenance
- Chemical storage and disposal

Measurable Goal: Beginning in FY?? and ongoing, distribute a residential pollution prevention brochure. Distribution methods can include, but are not limited to, mass mailings; handing out during presentations to civic groups, school groups and environmental groups; attaching them to permit approval letters; and having them available in City offices.

Reporting and Record Keeping: Retain a copy of the brochure, and provide documentation of the distribution method(s) and number of brochures printed per year.

BMP 2: Distribute One Commercial Pollution Prevention Brochure

Compliance Information: As noted in the previous section, EPA notes a need to provide a targeted education program. Potential audiences for the commercial brochure include:

- Lawn care companies
- Dry Cleaners
- Restaurants

Measurable Goal: Beginning in FY?? and ongoing, distribute a commercial pollution prevention brochure. Distribution methods include, but are not limited to, mass mailings; hading out during inspections; handing out at presentations; attaching them to permit approval letters; and having them available in City offices.

Reporting and Record Keeping: Retain a copy of the brochure, and provide documentation of the distribution method(s) and number of brochures printed per year.

BMP 3: Distribute Site Operator Guidance Materials

This activity is also included in the compliance activities for Control Measure 4. Refer to

the Construction Site Run-off Section for more information on this activity.

BMP 4: Distribute Educational Handouts on Pollution Prevention to School Children

Measurable Goal: Beginning in FY?? and ongoing, distribute handout materials for school-aged children addressing storm water pollution prevention. Distribution methods can include, but are not limited to, hand-outs during classroom presentations and Earth Week activities, and hand-outs during school or children's group visits to City offices and facilities.

Reporting and Record Keeping: Retain a copy of the brochure. Beginning in FY??, document distribution methods and number of materials handed out.

BMP 5: Publicize/Support Household Hazardous Waste Days

This activity is also included in the compliance activities for Control Measure 3. Refer to the Illicit Discharge Detection and Elimination Section for more information on this activity.

BMP 6: Provide Erosion and Sediment Control Training Opportunities for Site Operators

This activity is also included in the compliance activities for Control Measure 4. Refer to the Construction Site Run-off Section for more information on this activity.

BMP 7: Require Stamped Storm Drains in New Developments

This activity is also included in the compliance activities for Control Measure 3. Refer to the Illicit Discharge Detection and Elimination Section for more information on this activity.

BMP 8: Conduct Storm water Quality and Pollution Prevention Presentations

Measurable Goal: Beginning in FY?? and ongoing, annually conduct at least two (2) presentations addressing storm water quality and pollution prevention, to be given to the general public (e.g., school, environmental, and civic groups).

Reporting and Record Keeping: Document all presentations, number attending and obtain copies of sign-in sheets, if available.

"(d) In combined sewer system municipalities designated under this rule, the current CSOOP and LTCP will need to be reviewed, and any necessary language changes to ensure consistency*

with the SWQMP shall be included in the plan to ensure that this MCM requirement is met."

The CSO Operational Plan (CSOOP) and Long Term Control Plan (LTCP), and any other existing programs or materials, can be utilized to comply with this requirement. The CSO Community will need to review these documents, and determined whether any additions are necessary to comply with this rule. If any additions to the public education and outreach provisions are necessary to comply with this requirement, the additions will be submitted as an addendum to the LTCP. This addendum can be added whether the LTCP has already been submitted to IDEM, approval or not, and will not impact the initial submittal date of the LTCP. Additionally, as part of the CSO Public Notification rule currently being developed and the notification requirements of the CSOOP, public education and outreach may be conducted, which could also be used to satisfy this requirement.

SECTION 13 (327 IAC 15-13-13)
SWQMP PUBLIC PARTICIPATION AND INVOLVEMENT MCM

"(a) The MS4 operator shall develop an SWQMP that includes provisions to allow opportunities for constituents within the MS4 area to participate in the storm water management program development and implementation. An MS4 operator shall ensure, via documented efforts, that sufficient opportunities were allotted to involve all constituents interested in participating in the program process to meet this measure. Correctional facilities will not be required to implement the public participation and involvement MCM.*"

All constituents interested in participating in the MS4 area's storm water program must be given the opportunity to participate. To demonstrate sufficient opportunity, storm water program development and implementation meetings should be open to the public, with proper notification provided. Public comments, input, and involvement should be solicited by some means, such as complaint hotlines or outreach. Efforts to involve all interested constituents must be documented, and may be part of the educational outreach program developed per the requirements in section 12 of the rule. Due to the presence of inmates and their lack of decision-making abilities, public participation and involvement is not realistically applicable to correctional facilities.

"(b) An MS4 entity shall comply with applicable public notice requirements. An MS4 operator shall identify and implement a public participation and involvement program. A certification form shall be completed and submitted to the department once the program has been developed and implemented, or three hundred sixty-five (365) days from the date the initial NOI letter submittal was received by the department, whichever is earlier. In subsequent permit terms, the certification form does not need to be completed and submitted. At a minimum, every five (5) years the program shall be reviewed for adequacy and accuracy, and updated, as necessary.*"

Public participation and involvement practices can include the following:

(1) Public meetings and citizen panels to allow citizens the opportunity to discuss viewpoints and provide input.
(2) Volunteer water quality monitoring to collect water quality data.
(3) Volunteer educators who can conduct workshops, encourage public participation, and staff special events.
(4) Storm drain marking.
(5) Community clean-ups along local water bodies and storm drains.
(6) Citizen watch groups to identify polluters.
(7) "Adopt a storm drain/channel" programs to encourage individuals or groups to keep drains and channels free of debris.

"(c) An MS4 operator shall develop measurable goals for this MCM. An initial assessment of MS4 area constituents must be conducted to identify interested individuals for participation in the MS4 area storm water program. To comply with this measure, specific outreach and reduction goal percentages and timetables must be identified. As applicable or, if not applicable, then appropriately justified, goals must address relevant community participation in citizen panels, community clean-ups, citizen watch groups and drain marking projects, and public meeting notification.*"

The following hypothetical examples illustrate how measurable goals could be used to track and document program effectiveness at reducing pollutants. IDEM does not attempt to develop guidance on measurable goals for every potential BMP, and the following list of measurable parameters is not comprehensive. The list is intended to serve as a guide.

ADOPT-A-STREAM PROGRAMS ! Track the number of participants in Adopt-A-Stream programs. ! Water quality at Adopt-A-Stream sites. ! The quantity of trash and debris removed by Adopt-A-Stream volunteers.

ATTITUDE SURVEYS ! The number of citizens solicited to complete surveys. ! The number of completed surveys. ! A survey of citizens gauging change in attitude/behavior after storm water education activities are held.

COMMUNITY HOTLINES ! The number of hotlines established to handle storm-water-related concerns. ! The number of calls received by hotlines. ! The number of problems/incidents remedied as a result of hotline calls.

REFORESTATION PROGRAMS ! The number of volunteer tree planters. ! The number of trees planted. ! The number of acres planted with trees.

STAKEHOLDER MEETINGS ! The number of meetings held. ! The number of attendees. ! The number of actions taken as a result of stakeholder meetings.

STORM DRAIN MARKING ! The number or proportion of drains marked. ! The

number of marking volunteers. ! The number of drains marked. ! Changes in water quality at outfalls of marked areas.

STREAM CLEANUP AND MONITORING ! The number of stream cleanups. ! The number of cleanup participants. ! The quantity of waste collected as a result of cleanup efforts. ! The number of stream miles cleaned. ! Water quality at the stream cleanup sites.

VOLUNTEER MONITORING ! The number of volunteers participating in monitoring programs. ! The frequency of monitoring in the watershed. ! The number of volunteer monitoring stations established in the watershed. ! The number of volunteer monitoring training sessions held. ! The number of actions that were taken as a result of the monitoring data collected by volunteers.

WATERSHED ORGANIZATION ! Whether or not a watershed organization was established. ! The number of participants in the watershed organization. ! The number of actions taken as a result of the watershed organization.

WETLAND PLANTINGS ! The acres of land planted. ! The number of volunteers that participated in planting. ! The number of planting events held.

The following three (3) BMP examples can be used to describe typical measurable goals:

BMP 1: Community group involvement

Measurable Goal: Beginning in FY?? and ongoing, include in the job description of the MS4 Operator, or the Coordinator's designee, the requirement to participate in a local Watershed Group or other citizen-based environmental or water quality group.

Reporting and Record Keeping: Retain a copy of the job description of the staff member responsible for group participation, and retain documentation of community support for the group's activities.

BMP 2: Gain public input on key issues

Measurable Goal: Prior to adopting components of the City's storm water program, gain public input on storm water program issues as appropriate by meeting at least once with City leaders, stakeholders, technical experts or the general public to present the issue(s) and proposed solution(s) and ask for comment and discussion.

Reporting and Record Keeping: Document meetings with a short summary of the meeting minutes, a narrative of the meeting results, a list of attendees and the name/signature of the responsible staff member.

BMP 3: Provide public notice of council/commission hearings on storm water issues

Compliance Information: All communities are required to comply with local and state public meeting notices, regardless of the subject matter.

Measurable Goal: Beginning in FY03, publicize dates and times for all Council meetings where storm water related ordinances or management objectives are discussed and for the yearly public hearing on storm water issues.

Reporting and Record Keeping: Document publication efforts by retaining copies of newspaper notices or other publications.

"(d) In combined sewer system municipalities designated under this rule, the current LTCP will need to be reviewed, and any necessary language changes to ensure consistency with the SWQMP shall be included in the plan to ensure that this MCM requirement is met.*"

CSO Communities will need to review the current LTCP in order to verify provisions are included which would allow opportunities for constituents within the MS4 area to participate in storm water management program development and implementation, and efforts to involve the constituents have been documented. Use of the LTCP Citizens Advisory Committee is strongly encouraged. Any necessary additions to the public participation provisions in the current LTCP will be added as an addendum to the LTCP.

SECTION 14 (327 IAC 15-13-14)
SWQMP ILLICIT DISCHARGE DETECTION AND ELIMINATION MCM

"(a) An MS4 operator shall develop an SWQMP that includes a commitment to develop and implement a strategy to detect and eliminate illicit discharges to the MS4 conveyance.*"

A strategy must be developed and implemented to detect and eliminate illicit discharges to the MS4 conveyance system. The strategy will be enforceable through the development, or revision, of an ordinance or some other regulatory mechanism that addresses illicit discharges. The strategy will be written into the plan required under subsection (d), and should include detection procedures, illicit discharger notification procedures, enforcement procedures, implementation and procedural schedules, and identification of MS4 area personnel, at least by position and title, and equipment resources that will be used in the illicit discharge control measure program.

"(b) An MS4 operator shall develop a storm sewer system map showing the location of all outfalls and MS4 conveyances in the particular MS4 area under the MS4 operator's control and the names and locations of all waters that receive discharges from those outfalls. A map developed under this subsection must meet the following:*

(1) At a minimum, longitude and latitude for mapped outfall locations must be done in

decimal degrees, or, if a global positioning system is utilized, mapping-grade accuracy data shall be collected, where an accuracy discrepancy is less than five (5) meters.
(2) The mapping requirement must be developed as follows:
(A) All known outfall conveyance systems with a pipe diameter of twelve (12) inches or larger and open ditches with a two (2) foot or larger bottom width must be mapped within the first five (5) year permit term, according to the following:
(i) After the second year of permit coverage, mapping must depict the location of outfall conveyance systems for at least twenty-five percent (25%) of the MS4 conveyances within the MS4 area.
(ii) For each additional year of the initial permit term, mapping must depict at least an additional twenty-five percent (25%) of the MS4 conveyances.
(B) Subsequent permit terms will require that all remaining outfall conveyance systems are mapped.
(3) The mapping requirements in subdivision (2) do not include private or mutual drains, yard swales that are not maintained by a regulated MS4 entity, or curbs and gutters."

Mapping should be consistent within each MS4 entity's jurisdictional boundaries, and, in the example of entities that share mapping information, MS4 entities within a given MS4 area. However, IDEM is not requiring maps to be created electronically or automatically submitted to the agency. The mapping requirement is primarily for use by the MS4 entity to aid in the investigation of illicit discharges and determine appropriate placement of best management practices. Except for the storm water outfalls, the MS4 conveyances are not required to be mapped using exact coordinate accuracy. Indicating the approximate locations of conveyances via "hand drawn" diagrams is acceptable, as long as the representation is sufficient to depict the flow pattern of the conveyances, that are under the jurisdiction of the MS4 entity, from inlets to outfalls.

Outfall mapping accuracy should be at, or better than, plus or minus five meters of accuracy as provided by common mapping grade Global Positioning System (GPS) collection methods and include metadata fully compliant with FGDC standards. If an MS4 entity wants to be compatible with IDEM's mapping system, IDEM has standardized on ESRI ArcGIS Geographic Information System software. If requested or otherwise provided, electronic submittal of maps should be in an ESRI compatible format using a NAD 83 UTM projection. MS4 entities can contact the IDEM GIS Coordinator for more information regarding agency standards, data coordination or possible sharing of resources. MS4 entities that use a CAD mapping system may need to convert the files to be compatible with IDEM's system.

"(c) Through an ordinance or other regulatory mechanism, a MS4 operator shall prohibit illicit discharges into MS4 conveyances and establish appropriate enforcement procedures and actions.*"

An MS4 entity must create, or revise, a policy, ordinance, or other regulatory mechanism to provide the necessary legal authorities to prohibit, and, when necessary, penalize the source of, illicit discharges. MS4 entities that do not have the ability to create or enforce ordinances will need to either create an enforceable policy document, or enter into a legal agreement with another entity to implement this control measure.

"(d) An MS4 operator shall develop a plan to detect, address, and eliminate illicit discharges, including illegal dumping, into the MS4 conveyance. This plan need not address the following categories of nonstorm water discharges or flows, unless the MS4 operator identifies them as significant contributors of pollutants to its MS4 conveyance:*

(1) Water line flushing.
(2) Landscape irrigation.
(3) Diverted stream flows.
(4) Rising ground waters.
(5) Uncontaminated ground water infiltration.
(6) Uncontaminated pumped ground water.
(7) Discharges from potable water sources.
(8) Foundation drains.
(9) Air conditioning condensation.
(10) Irrigation water.
(11) Springs.
(12) Water from crawl space pumps.
(13) Footing drains.
(14) Lawn watering.
(15) Individual residential car washing.
(16) Flows from riparian habitats and wetlands.
(17) Dechlorinated swimming pool discharges.
(18) Street wash water.
(19) Discharges from firefighting activities."

A plan must be written to detect, address, and eliminate illicit discharges into the MS4 conveyances. The plan should build upon the strategy developed under subsection (a), but does not need to address the nonstorm water discharges listed in (1) through (19), unless a listed nonstorm water discharge is identified by an MS4 entity or the MS4 operator as a significant contributor of pollutants to the MS4 conveyances. An MS4 entity can choose to not allow any, or all, of the listed nonstorm water discharges.

"(e) The plan developed under subsection (d) must, at a minimum, locate problem areas via dry weather screening or other means, determine the source, remove or otherwise correct illicit connections, and document the actions taken. The dry weather screening or other means must utilize a field testing kit, or similar method, to analyze for pollutants of concern and other parameters, such as pH, conductivity, or nitrogen-ammonia, used to identify possible pollutant sources. All storm water outfalls in the regulated MS4 area under the MS4 operator's control*

must be screened for illicit discharges. The screening may be initiated gradually throughout successive five (5) year permit cycles. If the gradual approach is utilized, all storm water outfalls with a pipe diameter of twelve (12) inches or larger and open ditches with a two (2) foot or larger bottom width must be screened in the first five (5) year permit term. Subsequent permit terms will require that all remaining outfalls be screened."

Depending on the land usage type representative of an outfall's dry weather discharge, the type of expected parameters to test for can be determined. A physical inspection, to check for oil sheens, floatables, structural damage to the outfall structure, stressed vegetation, deposits, color and odors, is the first step. According to U.S. EPA's 1993 document titled Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide, the following parameter information is useful:

"Odor: The odor of a discharge can vary widely and sometimes directly reflects the source of contamination. Industrial dry-weather discharges will often cause the flow to smell like a particular spoiled product, oil, gasoline, specific chemical, or solvent. Industries involved in the production of meats, dairy products, and the preservation of vegetables or fruits are commonly found to discharge organic materials into storm drains. As these organic materials decay, the sulfide production creates a highly apparent and unpleasant smell.

Color: Industrial dry-weather discharges can have various colors. Dark colors, such as brown, gray, or black are most common. Meat processing industries usually have a deep reddish-brown colored discharge, while paper mill waste is usually brown. Plating mill wastes are often yellow. Washing of work areas in cement and stone working plants can cause cloudy dry-weather discharges.

Turbidity: Dry-weather industrial flows with moderate turbidity can be cloudy, while highly turbid flows can be opaque. Sanitary wastewater is often cloudy.

Temperature: Both sanitary wastewater and cooling water could substantially increase outfall discharge temperatures.

Floatable Matter: These substances are usually direct products or byproducts of the manufacturing process, or distinctive of sanitary wastewater. Floatables of industrial origin may include substances such as animal fats, spoiled food products, oils, plant parts, solvents, sawdust, foams, packing materials, or fuel. Floatables in sanitary wastewater include fecal matter, sanitary napkins, and condoms.

Deposits and Stains: Certain substances will cover the area surrounding the outfall and are usually of a dark color. Deposits and stains often will contain fragments of floatable substances and, at times, take the form of a crystalline or amorphous powder. Grayish-black deposits that contain fragments of animal flesh and hair are often produced by

leather tanneries, and white crystalline powder stains at an outfall may indicate nitrogenous fertilizer wastes.

Vegetation: Industrial pollutants will often cause a substantial alteration in the chemical composition and pH of the discharge. This alteration will affect plant growth, even when the source of contamination is intermittent. Decaying organic materials coming from various food product wastes could cause an increase in plant growth, while textile mill dyes and pigments could noticeably stunt plant growth. However, poor plant growth could also be associated with scouring flows occurring during storms.
Damage to Outfall Structure: Cracking, deterioration, and spalling of concrete or peeling of surface paint, occurring at an outfall are usually caused by severely contaminated discharges. Primary metal industries have a strong potential for causing this type of damage because their batch dumps are highly acidic. However, poor construction, hydraulic scour, and old age may also cause similar outfall structure damages."

Chemical tests can then be used to supplement the physical inspection conclusions, and help to narrow the potential list of sources. Specific tests, such as specific conductivity, can be used for this purpose. According to U.S. EPA's 1993 document titled Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide, the following parameter information is useful:

"Specific Conductivity: An indicator of dissolved solids that may be used to distinguish between storm water and wastewater sources. Specific conductivity levels less than 1000 microS/cm indicate significant levels of rainwater in the discharge.

Fluoride: An indicator of potable water to determine possible cross-connections, where communities add fluoride to improve dental health. Concentrations of total fluoride in fluoride treated potable waters are usually in the range of 1.0 to 2.5 mg/L.

Hardness: An indicator of potable water to determine possible cross-connections, where ground water-supplied potable water is provided. Natural sources, such as limestone, tend to increase hardness in waters. Information regarding the average hardness of potable water as well as local ground water and surface waters should be readily available for comparison wherever a public water supply system exists.

Ammonia/Ammonium: An indicator of sanitary wastewater cross-connections. Ammonia concentrations greater than 1 mg/L may indicate a cross-connection. Ammonia can also indicate industrial discharges from gas, coke, and chemical manufacturing processes.

Potassium: An indicator of sanitary wastewater cross-connections.

Surfactants: An indicator of laundry or sanitary wastewater cross-connections. Anionic

surfactants generally range from 1 to 20 mg/L in raw sanitary wastewater, and below 0.1 mg/L in natural waters.

Fluorescence: An indicator of detergent residue in waters. Most laundry detergents contain fabric whiteners which cause substantial fluorescence. Fluorescent indicators remain after sanitary wastewater treatment in septic tanks, and, therefore, may be useful in distinguishing between sanitary wastewater and septic tank effluent.

pH: An indicator of industrial process wastewaters, commercial wastewaters, or chemical dumping. The pH of most uncontaminated flows, as well as sanitary wastewater, is usually quite close to 7. Industries that commonly release low pH dry-weather discharges include textile mills, pharmaceutical manufacturers, metal finishers/fabricators, resin manufacturers, and pesticide/fertilizer manufacturers. Industries that commonly release high pH dry-weather discharges include soap manufacturers, textile mills, metal plating facilities, steel mills, and producers of rubber and plastic.

Total Chlorine: An indicator of significant and very close potable water sources, or industrial discharges from laundries, paper mills, and textile bleaching.

"(f) The plan developed under subsection (d) must identify all active industrial facilities within the MS4 area that discharge into an MS4 conveyance. This identification shall include the facility name, address, telephone number, and Standard Industrial Classification (SIC) Code. Updated information regarding active industrial facilities must be submitted in each annual report.*"

Revised 327 IAC 15-6-2(a)(5)(A), (B), (E), (G) and (J) list the SIC codes of "facility categories considered to have storm water discharges exposed to industrial activity." Any electronic database of business and manufacturing facility information can be accessed to produce a list of facilities, in alphabetical order, within the relevant SIC codes, for an MS4 area using city name, county name or zip code as the location reference.

Harris Infosource™ (www.harrisinfo.com) publishes the Harris Selectory CD-ROM, an electronic directory of Indiana businesses. The facility data described above are easily obtainable, using this product. The most common print format in columnar display includes:

- Primary SIC Code
- Company name
- Mail Address
- Mail City
- Zip

- Street Address [location if different from mail address]
- Street City [if different from Mail City]
- Phone

IDEM's Office of Water Quality maintains an electronic database of facilities permitted under 327 IAC 15-6, titled "Storm Water Rule 6 Facilities." This database includes SIC code, Facility Name, Facility Location, Address, City, Zip, Mailing Address, City Zip, and, perhaps, other information.

An MS4 can request a printout or electronic file of Rule 6 permittees in its jurisdiction. Possibly, the business directory file and the IDEM file can be compared to produce a list of facilities in an MS4 area without a Rule 6 permit so an investigation can be made as to whether a permit is required.

"(g) A certification form must be completed and submitted to the department once the plan has been developed and implemented, or three hundred sixty-five (365) days from the date the initial NOI letter submittal was received by the department, whichever is earlier. In subsequent permit terms, the certification form does not need to be completed and submitted. At a minimum, every five (5) years the plan developed under subsection (d) shall be reviewed for adequacy and accuracy, and updated, as necessary.*"

A certification form for the illicit detection and elimination minimum control measure program, available from IDEM, must be signed and submitted, at the latest, with the SWQMP-Part C: Program Implementation. This certification submittal is only necessary to establish the initial implementation of each control measure, and, therefore, only needs to be submitted during the first five-year permit term.

"(h) An MS4 operator shall educate public employees, businesses, and the general public about the hazards associated with illicit discharges and improper disposal of waste. This educational effort shall include the following:*

(1) Informational brochures and guidances for specific audiences and school curricula.
(2) Publicizing and facilitating public reporting of illicit discharges and spills."

As a portion of the public education and outreach minimum control measure, one message that the education program must address is illicit discharges and improper disposal. The education program must involve targeted outreach to various business types or land usage sectors, a school curricula component, and a public reporting mechanism. The targeted outreach can be based on potential pollutant sources, and should provide suggestions on minimizing exposure of the sources to storm water run-off. The school curricula could be a written educational supplement or MS4 entity staff presentations, and should involve some form of outreach to all schools within the MS4 area. A public reporting mechanism must be established to allow the public to report illicit discharges and spills. Depending on the type of reporting issue, the follow-up to

this complaint reporting should be to investigate, and, where necessary, eliminate or penalize the verified pollutant source.

"(i) An MS4 operator shall initiate, or coordinate existing, recycling programs in the regulated MS4 area for commonly dumped wastes, such as motor oil, antifreeze, and pesticides.*"

An MS4 entity may already have a local household hazardous waste collection program, or some other type of recycling program for used oils or other common waste materials. These existing programs can be utilized to meet this rule requirement. Obtaining credit for these programs would entail documenting the specific materials collected, when they are collected, and providing approximated volume tracking data. If an MS4 entity does not already have a collection program, one must be developed and implemented. New programs can be established by soliciting support from, and coordinating efforts with, local businesses that already are required to collect, or recycle, waste materials, such as automotive repair facilities. The primary purpose of establishing these type of programs is to minimize the effects of improper dumping of wastes into the MS4 conveyances by providing constituents a well-publicized option for proper disposal.

"(j) An MS4 operator shall develop measurable goals for this MCM. To comply with this measure, specific outreach and reduction percentages and timetables must be identified. At a minimum, goals must address relevant collection system mapping, regulatory mechanism implementation, employee training, household hazardous waste programs, illicit discharge detection, and illicit discharge elimination.*"

The following hypothetical examples illustrate how measurable goals could be used to track and document program effectiveness at reducing pollutants. IDEM does not attempt to develop guidance on measurable goals for every potential BMP, and the following list of measurable parameters is not comprehensive. The list is intended to serve as a guide.

FAILING SEPTIC SYSTEMS ! The number of regular maintenance and inspection reminders issued to tank owners. ! The number of partnerships formed with private pumping companies. ! Whether or not an inventory of tanks and when they were last serviced was completed. ! The number of field tests and screening conducted. ! The number of postconstruction inspections conducted to insure proper installation. ! The number of scheduled pump-outs and routine maintenance work conducted.

IDENTIFYING ILLICIT CONNECTIONS ! Inventory conducted and sites prioritized for inspection. ! The number of field tests conducted in high-risk areas. ! Whether or not an ordinance was developed to allow entrance into private buildings for the purpose of conducting tests. ! The number of illicit connections reported by business employees. ! The number of survey responses indicating a possible illicit connection. ! The number of illicit connections found. ! The number of illicit connections repaired/replaced. ! Whether or not an ordinance was developed for mandatory

inspections of new buildings. ! The number of new buildings inspected.

ILLEGAL DUMPING ! The number of flyers, posters, or other public education tools distributed. ! The number of illegal dumps reported by citizens. ! The number of penalties enforced upon the participants of illegal dumps. ! Whether or not an inventory of the prime areas for illegal dumping was completed. ! The number of rewards distributed to citizens who reported an illegal dump. ! The number of illegal dump clean-ups completed.

INDUSTRIAL/BUSINESS CONNECTIONS ! The number of dry weather tests completed. ! The number of high-risk connections prioritized. ! The number of codes developed to prohibit connections. ! The number of illicit connections reported by business employees. ! The number of survey responses indicating a possible illicit connection. ! The number of illicit connections found. ! The number of illicit connections repaired/replaced. ! The number of new buildings inspected. ! Whether or not an ordinance was developed for mandatory inspections of new buildings.

RECREATIONAL SEWAGE ! Whether or not an inventory of high-risk areas was completed. ! The number of pump-out stations installed. ! The amount of waste water that pump-out stations collect. ! The number of no-discharge areas created. ! The number of new signs added to remind citizens of dumping policies and alternatives. ! The number of enforced cases of recreational dumping. ! The number of citizen complaints made reporting illegal action. ! The change in water quality at marinas.

SANITARY SEWER OVERFLOWS ! The frequency of routine maintenance and cleaning activities. ! The number of overflows reported. ! The number of overflow causes that were identified during inspections. ! The number of sites repaired. ! The number of rainfall gauges installed. ! Whether or not an ordinance was developed to prohibit new and illicit connections.

WASTEWATER CONNECTIONS TO THE STORM DRAIN SYSTEM ! The number of rerouted connections. ! The number of dry weather monitoring activities performed. ! Whether or not an inventory and prioritization of potential connection sites was completed. ! The number of field tests conducted in high-risk areas. ! The number of illicit connections reported. ! The number of illicit connections found. ! The number of illicit connections repaired/replaced. ! Whether or not an ordinance was developed for mandatory inspections of new buildings. ! The number of new buildings inspected. ! Changes in water quality at re-routed outfalls and high risk areas.

The following ten (10) BMP examples can be used to describe typical measurable goals:

BMP 1: Develop Storm Sewer System Map

Measurable Goal: Develop a storm sewer system map, showing City streets, United States Geological Survey solid or intermittent blue line streams, topography and outfall points. Complete map by FY07.

Reporting and Record Keeping: Retain a copy of the storm sewer system map. The map itself will be used for reporting.

BMP 2: Adopt an Illicit Discharge Ordinance

Measurable Goal: An Illicit Discharge Ordinance will be developed and adopted in FY03.

Reporting and Record Keeping: Retain a copy of the illicit discharge ordinance. The ordinance itself will be used for reporting.

BMP 3: Develop Illicit Discharge Detection and Elimination policies and procedures and documentation tools

Measurable Goal: Develop policies, procedures and documentation tools for illicit discharge inspections, enforcement and tracking in FY??.

Reporting and Record Keeping: The City MS4 Operator will retain copies of policies, procedures and documentation tools.

BMP 4: Review new development plans and inspect new developments for cross connections

Measurable Goal: All new development plans will be reviewed for cross-connections, and all new developments will be inspected for installed cross-connections.

Reporting and Record Keeping: The City MS4 Operator will retain copies of completed plans, review checklists and site inspection checklists for reporting.

BMP 5: Develop and implement an Illicit Discharge Detection and Elimination complaint receipt and tracking mechanism

Measurable Goal: All complaints of illegal discharges and dumping to storm drains and local streams will be investigated and actions taken will be documented.

Reporting and Record Keeping: The MS4 Operator will retain copies of complaint data for reporting. Reporting requirements will include number of complaints received, number of actual illegal discharges, and number of illegal discharges eliminated.

BMP 6: Perform dry weather screening outfall inspections

Measurable Goal 1: Develop map of inspection priority areas in FY??.

Measurable Goal 2: Visual inspections of all outfalls and for illegal dumping will be performed during the storm sewer mapping effort. Inspect outfalls located in priority areas identified on map once per year, starting in FY??. Inspect outfalls in all other areas once every two years, starting in FY??.

Reporting and Record Keeping: Retain a copy of the priority area map for submittal. Retain copies of inspection data or checklists for reporting.

BMP 7: Annual illicit discharge and pollution prevention training for staff

Measurable Goal: Beginning in FY??, provide at least one hour of education annually to appropriate maintenance, operations and engineering staff on illicit discharge detection and elimination. Education topics can include, but are not limited to: definition of illicit or non-storm water discharge; local discharge requirements; review of local outfall mapping; identifying and tracking suspected discharges; and reporting suspected discharges.

Reporting and Record Keeping: Retain a copy of the training topic(s), names and titles/job description of personnel trained per session, and date of each session. If staff are sent to an outside agency for training, retain a copy of any certificate(s) obtained at the training.

BMP 8: Promote household hazardous waste days

Measurable Goal: Promote the annual household hazardous waste roundup day through a weekly advertisement/notice in the local newspapers, for the two weeks prior to the roundup day.

Reporting and Record Keeping: Retain a copy of the advertisement/notice, and dates on which it appeared in the local newspaper.

BMP 9: Require stamped curb inlets and manhole covers

Measurable Goal: An environmental stamp will be required on curb inlets and manhole covers in all new developments. Examples of permissible stamps include: “No dumping. Drains to Stream”, “Dump No Waste”, etc.

Reporting and Record Keeping: Retain a copy of the policy or ordinance requirement to have stamped inlets and covers for submittal. Also, retain copies of the site plan

review checklist that includes the check for stamped storm drain elements.

BMP 10: Distribute a residential pollution prevention brochure and a commercial pollution prevention brochure

These activities are also a compliance activity for the Public Education and Outreach Control Measure (Measure 1). Please refer to this Section for more information.

"(k) In combined sewer system municipalities designated under this rule, the current SRCER, CSOOP and LTCP must be reviewed, and any necessary language changes to ensure consistency with the SWQMP must be included in the plans to ensure that this MCM requirement is met.*"

Applied to the MS4 area, the type of mapping done to meet the CSOOP requirement of a detailed map of the entire collection system and modeling for combined sewer system municipalities with a population greater than seventy-five thousand (75,000) must meet the MCM requirement of this section.

The CSOOP, SRCER, and LTCP, must be reviewed to ensure these issues have been addressed. The CSOOP mapping requirement may be sufficient to satisfy a portion of this requirement for communities that have been granted CSO Small Communities Considerations, although the map must be expanded to include the entire MS4 area. However, Communities with a population over 75,000, or who haven't received the Small Communities Consideration, will need to conduct modeling similar to their LTCP modeling, although the model will need to include the entire MS4 area. Any needed additions to meet this requirement will be added as an addendum to the LTCP.

SECTION 15 (327 IAC 15-13-15)
SWQMP CONSTRUCTION SITE STORM WATER RUN-OFF CONTROL MCM

"(a) An MS4 operator shall develop an SWQMP that includes a commitment to develop, implement, manage, and enforce an erosion and sediment control program for construction activities that disturb one (1) or more acres of land within the MS4 area.*"

As part of the SWQMP-Part C: Program Implementation, a component must address the program for storm water discharges from construction site activities to the MS4 conveyance system. The program will be enforceable through the development, or revision, of an ordinance or some other regulatory mechanism that addresses construction site run-off control. The program will include the requirements of subsection (f).

"(b) Through an ordinance or other regulatory mechanism, the MS4 operator shall establish a construction program that controls polluted run-off from construction activities with a land disturbance greater than or equal to one (1) acre, or disturbances of less than one (1) acre of land that are part of a larger common plan of development or sale if the larger common plan*

will ultimately disturb one (1) or more acres of land. Except for state permitting process references and submittal deadlines of construction plans and permit applications in 327 IAC 15-5, this ordinance or other regulatory mechanism must contain, at a minimum, the requirements of 327 IAC 15-5. The MS4 operator may establish a permitting process and timetable for plan and application submittals that is different than that established under 327 IAC 15-5. The permitting process must include a requirement for the construction project site owner to submit a copy of the application directly to the department. A certification form shall be completed and submitted to the department once the ordinance or other regulatory mechanism is developed and a program has been implemented, or three hundred sixty-five (365) days from the date the initial NOI letter submittal was received by the department, whichever is earlier. In subsequent permit terms, the certification form does not need to be completed and submitted. At a minimum, every five (5) years the regulatory mechanism and program shall be reviewed for adequacy and accuracy, and updated, as necessary. Until the MS4 operator program is implemented, NOI letters and construction plans for construction activities within the MS4 area will be submitted in accordance with 327 IAC 15-5-5 and 15-5-6 to the department and the local SWCD or department of natural resources, division of soil conservation, respectively."

An MS4 entity must create, or revise, a policy, ordinance, or other regulatory mechanism to provide the necessary legal authorities to control, and, when necessary, penalize the source of, polluted construction site run-off from land disturbances greater than or equal to one (1) acre, or disturbances of less than one (1) acre of land that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) or more acres of land. Except for references to the permitting process and submittal timetables, the regulatory mechanism must contain, at a minimum, the requirements of 327 IAC 15-5. MS4 entities that do not have the ability to create or enforce ordinances will need to either create an enforceable policy document, or enter into a legal agreement with another entity to implement this control measure.

A certification form for the construction site run-off control minimum control measure program, available from IDEM, must be signed and submitted, at the latest, with the SWQMP-Part C: Program Implementation. This certification submittal is only necessary to establish the initial implementation of each control measure, and, therefore, only needs to be submitted during the first five-year permit term.

For the first year of permit coverage when the construction site run-off control measure program is being developed, construction site owners will be required to submit their permit (i.e., Notice of Intent) applications to IDEM and their construction plans to either the local Soil and Water Conservation District or the Indiana Department of Natural Resources, Division of Soil Conservation, in accordance with 327 IAC 15-5. After the first year (i.e., when the MS4 entity is required to complete development, and initiate implementation of a construction site run-off control program), a state-led public outreach campaign will attempt to inform construction site owners of the requirement to submit applications and construction plans to the state's regulated MS4 entities. After the first

year, the MS4 entities will begin to implement their programs, as specified under the requirement in subsection (a).

"(c) If the MS4 operator has not entered into a written agreement with the local SWCD to review and approve construction site plans or conduct construction site inspections, the MS4 operator shall provide an opportunity to the local SWCD to provide comments and recommendations to the MS4 operator on individual projects. This process may be accomplished by the MS4 operator establishing a local plan review and comment procedure, a project technical review committee, or other mechanism to solicit the input of the local SWCD.*"

An MS4 entity is not required to utilize the local Soil and Water Conservation District to review and approve construction site plans. However, because of the experience the staff at these SWCDs already have with plan review under 327 IAC 15-5, the local SWCD must be provided the opportunity to comment on the construction site plans once the MS4 entity has implemented their program. As an example, the formation of a project technical review committee with SWCD representation suggestion in the rule language provides the required opportunity.

"(d) Failure of the SWCD to respond within a predetermined time period should not delay final action of the MS4 operator to approve plans or projects.*"

A predetermined time period must be established between the MS4 operator and the local SWCD for obtaining comments and recommendations from the local SWCD. The SWCD will be required to submit their comments within this predetermined time frame, or the plan approval process will go forward. If no responses are received within the required time frame, it is assumed that the SWCD has no additional comments or recommendations.

"(e) In addition to any procedural requirements for submittal to the MS4 operator or MS4 designated entity, an NOI letter required under 327 IAC 15-5 must be submitted to the department for any projects within the MS4 area.*"

As the state's NPDES permitting authority, IDEM is responsible for permitting all NPDES-related activities. Construction activity storm water run-off is one of those NPDES-related activities. To ensure that an MS4 entity or MS4 operator is properly permitting regulated run-off from construction activities, IDEM must be sent an NOI letter from the construction site owner for tracking purposes. The MS4 entity, or another entity designated by the MS4 entity, will develop and implement a program to permit, provide construction plan review for, and take appropriate enforcement actions against regulated construction sites, but IDEM retains the authority to oversee the MS4 entity's construction site storm water run-off program, and can take appropriate actions against the construction site owner or developer, or the MS4 entity.

"(f) The MS4 operator, or a designated MS4 entity, shall meet the following:*

(1) Develop requirements for the implementation of appropriate BMPs on construction sites to control sediment, erosion and other waste.

(2) Review and approve the construction plans submitted by the construction site operator before construction activities commence.

(3) Develop procedures for site inspection and enforcement to ensure that BMPs are properly installed.

(4) Establish written procedures to identify priority sites for inspection and enforcement based on, at a minimum, the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality.

(5) Develop procedures for the receipt and consideration of public inquiries, concerns, and information submitted regarding local construction activities.

(6) Implement, at a minimum, a tracking process in which submitted public information, both written and verbal, is documented and then given to appropriate staff for follow-up."

An MS4 entity construction site storm water run-off control program must address the items in subdivisions (1) through (6). In subdivision (1), the program must include requirements for the use of appropriate on-site BMPs to control sediment, erosion and other wastes at construction sites. In subdivisions (2) and (3), the program must include construction plan review, site inspection, and, when necessary, enforcement. In subdivision (4), a written procedure must be established to prioritize inspections, and provide rationale for enforcement actions. In subdivisions (5) and (6), a procedure must be established to process and document public inquiries regarding the quality of storm water run-off from construction sites within the MS4 area. If an inquiry needs to be investigated, the follow-up actions also need to be documented under subdivision (6).

"(g) MS4 area personnel responsible for plan review, inspection, and enforcement of construction activities shall receive, at a minimum, annual training, addressing such topics as appropriate control measures, inspection protocol, and enforcement procedures.*"

MS4 area personnel that are involved in the implementation of the construction site run-off control MCM must receive relevant storm water training. This training can be conducted "in-house" by MS4 entity staff or some other trainer, and must occur, at a minimum, annually. During an inspection of the MS4 area program, training documentation will be reviewed to verify that training is being conducted, is relevant to the construction storm water run-off control MCM, and is reaching all the appropriate MS4 area personnel.

"(h) An MS4 operator shall develop measurable goals for this MCM. To comply with this measure, specific outreach, compliance, and implementation goal percentages and timetables must be identified. At a minimum, goals must address relevant regulatory mechanism implementation, public informational request procedure implementation, site inspection*

procedure implementation, and construction site operator compliance improvement."

The following hypothetical examples illustrate how measurable goals could be used to track and document program effectiveness at reducing pollutants. IDEM does not attempt to develop guidance on measurable goals for every potential BMP, and the following list of measurable parameters is not comprehensive. The list is intended to serve as a guide.

BMP INSPECTION AND MAINTENANCE ! The frequency of inspection and maintenance of BMPs. ! The number of failed storm water BMPs. ! The number of BMPs reported to be in need of repair. ! Whether or not an inventory of inspection and maintenance activities was created and is regularly maintained.

BRUSH BARRIER ! The number of brush barriers installed. ! The number of construction sites with brush barriers. ! The amount of sediment collected brush barriers. ! The frequency of inspection and maintenance of brush barrier installations. ! Suspended solids levels at the site outfall.

CHECK DAMS ! The number of check dams installed. ! The number of construction sites that have check dams. ! The reduction in run-off quantity. ! The frequency of inspection and maintenance of check dam installations. ! The amount of sediment collected. ! Suspended solids levels at the site outfall.

CHEMICAL STABILIZATION ! The number of personnel trained to apply chemicals. ! Suspended solids levels at the site outfall. ! The frequency of chemical reapplication. ! The number of construction sites that use chemical stabilization.

CONSTRUCTION ENTRANCES ! The frequency of inspection and maintenance of construction entrances. ! The amount of sediment collected at construction entrances. ! Suspended solids levels at the site outfall. ! Whether or not an ordinance was developed that requires special construction entrances.

CONSTRUCTION REVIEWER ! The number of trained inspectors. ! Whether or not an ordinance was developed requiring that sites be inspected. ! The number of inadequate sites/plans reported by inspectors. ! The number of non-compliant permits reported.

CONSTRUCTION SEQUENCING ! Whether or not an ordinance was developed that requires construction sequencing. ! The number of construction sites that practice sequencing. ! Suspended solids levels at the site outfall.

CONTRACTOR CERTIFICATION AND INSPECTOR TRAINING ! The number of certified contractors. ! The number of training and certification programs offered. ! Whether or not an ordinance requiring certification was developed. ! Whether or not

an incentives program for certified contractors and inspectors was developed. ! The number of certified inspectors. ! The number of sites inspected. ! Changes in water quality at inspected sites.

DUST CONTROL ! Suspended solids levels at the site outfall or in nearby receiving waters.

FILTER BERMS ! The number of filter berms installed. ! The number of construction sites with filter berms. ! The frequency of inspection and maintenance of filter berms. ! Suspended solids levels at the site outfall.

GENERAL CONSTRUCTION SITE WASTE MANAGEMENT ! Whether or not an ordinance was developed to ensure that all regulations are followed for material storage, disposal, etc. ! Water quality at the site outfall. ! The frequency of inspection and maintenance activities.

GEOTEXTILES ! The number of geotextile installations at construction sites. ! The number of construction sites that use geotextiles. ! The frequency of inspection and maintenance of geotextile installations. ! Suspended solids levels at the site outfall.

GRADIENT TERRACES ! The number of gradient terrace installations at construction sites. ! The number of construction sites that use gradient terraces. ! The frequency of inspection and maintenance of gradient terraces. ! Suspended solids levels at the site outfall.

GRASS-LINED CHANNELS ! The number of grass-lined channels installed. ! The number of construction sites that use grass-lined channels. ! The frequency of inspection and maintenance of grass-lined channels. ! The reduction in run-off quantity. ! Water quality at the site outfall.

LAND GRADING ! The number of construction sites that use better land grading practices. ! Suspended solids levels at the site outfall.

MODEL ORDINANCES ! Whether or not an ordinance was developed to address construction site run-off control. ! The number of enforcement actions taken. ! The number of stop work orders given. ! The number of bonding requirements set.

MULCHING ! The amount of exposed soils protected with mulch. ! The number of construction sites that use mulching. ! Suspended solids levels at the site outfall.

PERMANENT DIVERSIONS ! The number of permanent diversions installed. ! The number of construction sites that use permanent diversions. ! The amount of run-off reduced. ! The frequency of inspection and maintenance of permanent diversions.

! Water quality at the site outfall.

PERMANENT SEEDING ! The amount of seeded area. ! The number of construction sites that use permanent seeding. ! The frequency of inspection and maintenance of seeded areas. ! Suspended solids levels at the site outfall.

PRESERVING NATURAL VEGETATION ! The amount of naturally vegetated land area preserved. ! The number of construction sites that preserve natural vegetation. ! Whether or not an ordinance was developed that requires that some natural vegetation be preserved at construction sites. ! Water quality at the site outfall.

RIPRAP ! The number of riprap installations. ! The number of construction sites that use riprap. ! Suspended solids levels at the site outfall. ! The frequency of inspection and maintenance of riprap installations. ! The reduction in run-off velocity.

SEDIMENT FILTERS AND SEDIMENT CHAMBERS ! The number of sediment filters and chambers installed. ! The number of construction sites that use sediment filters and chambers. ! The frequency of inspection and maintenance of sediment filters and chambers. ! Water quality at the site outfall. ! The acreage of disturbed land that drains to sediment filters and chambers. ! The amount of sediment collected in filters and chambers.

SEDIMENT TRAPS ! The number of sediment traps installed. ! The number of construction sites that use sediment traps. ! The amount of sediment collected in sediment traps. ! Suspended solids levels at the site outfall. ! The frequency of inspection and maintenance of sediment traps.

SEDIMENT BASINS AND ROCK DAMS ! The number of sediment basins and rock dams installed. ! The number of construction sites that use sediment basins and rock dams. ! The amount of sediment collected in sediment basins. ! Suspended solids levels at the site outfall. ! The frequency of inspection and maintenance of sediment basins and rock dams.

SILT FENCE ! The amount of silt fence installed. ! The number of construction sites that use silt fences. ! The amount of sediment collected by silt fences. ! The frequency of inspection and maintenance of silt fences. ! Suspended solids levels at the site outfall.

SODDING ! The amount of disturbed land protected by sod installations. ! The number of construction sites that use sodding. ! The frequency of inspection and maintenance of sod installations. ! Suspended solids levels at the site outfall.

SOIL ROUGHENING ! The amount of disturbed land protected by soil roughening. ! The number of construction sites that use soil roughening. ! Suspended solids levels at

the site outfall.

SOIL RETENTION ! The number of soil retaining structures installed. ! The number of construction sites with soil retaining structures. ! Suspended solids levels at the site outfall. ! The frequency of inspections to ensure that no erosion is occurring.

SPILL PREVENTION AND CONTROL PLAN ! The number of reported spills. ! Whether or not an ordinance for storage of high-risk chemicals was developed. ! The number of personnel trained in spill response.

STORM DRAIN INLET PROTECTION ! The number of storm drain inlets protected. ! The number of construction sites that use storm drain inlet protection. ! The amount of sediment collected. ! Suspended solids levels at the site outfall. ! The frequency of inspection and maintenance of storm drain inlets.

TEMPORARY DIVERSION DIKES ! The number of temporary diversion dikes installed. ! The number of construction sites that use temporary diversion dikes. ! The reduction in run-off quantity at the site outfall. ! Suspended solids levels at the site outfall. ! The amount of sediment collected by temporary diversion dikes.

TEMPORARY SLOPE DRAIN ! The number of temporary slope drains installed. ! The number of construction sites that have temporary slope drains. ! Suspended solids levels at the site outfall. ! The frequency of inspection and maintenance of temporary slope drains.

TEMPORARY STREAM CROSSINGS ! The number of temporary stream crossings installed. ! The frequency of inspection and maintenance of temporary stream crossings. ! Suspended solids levels at the site

VEGETATED BUFFER ! The number of vegetated buffers installed. ! The number of construction sites with vegetated buffers. ! Changes in water quality of run-off leaving buffer areas. ! The reduction in run-off quantity. ! The frequency of inspection and maintenance of vegetated buffers.

VEHICLE MAINTENANCE AND WASHING AREAS ! Water quality at the site outfall. ! Whether or not construction vehicles are regularly inspected. ! The number of vehicle wash areas on site. ! The number of construction sites with designated vehicle maintenance and washing areas.

WIND FENCES AND SAND FENCES ! The number of fences installed. ! The number of construction sites that use fences. ! The frequency of inspection and maintenance of wind and sand fences. ! Suspended solids levels at the site outfall.

The following eight (8) BMP examples can be used to describe measurable goals:

BMP 1: Develop and adopt an erosion and sediment control ordinance

Compliance Information: The ordinance gives the community the authority to require erosion and sediment control plans for new developments, to inspect new development sites and to require compliance with approved plans. The ordinance must have the following elements:

- Requirement to install Erosion and Sediment Control measures;
- Requirement to manage other construction site wastes;
- Technical standards reference;
- Clear definition of who must submit Erosion and Sediment Control information or plans;
- Requirement to obtain plan approval prior to initiation of land disturbance activities;
- Requirement to submit revised Erosion and Sediment Control plans or information if site plan or conditions change during construction;
- Allow right-of-entry for inspection; and
- Enforcement authority, with the ability to issue stop work orders.

Measurable Goal 1: In FY??, revise the existing erosion and sediment control ordinance to address all of the components noted in 327 IAC 15-5. Adopt the revised ordinance once developed.

Reporting and Record keeping: Provide a copy of the ordinance and date adopted.

Measurable Goal 2: In FY??, formally establish a Stop Work Order as one of the enforcement tools.

Reporting and Record Keeping: Provide a copy of the Stop Work Order and procedures for use.

BMP 2: Require BMPs per State erosion and sediment control manual

Measurable Goal: Continue referencing the latest version of the State Erosion and Sediment Control Manual as the technical manual of reference for the City's erosion and sediment control program.

Reporting and Record Keeping: Provide documentation (such as the adopted ordinance) that the State manual has been adopted as the technical reference.

BMP 3: Provide a training opportunity for site operators and construction site

contractors on erosion and sediment control

Measurable Goal: In FY??, provide a training opportunity for the development community on erosion and sediment control design, installation, and maintenance.

Reporting and Record Keeping: Retain a copy of the training agenda with the date noted and a copy of the sign-in sheet.

BMP 4: Integrate erosion and sediment control plan review into the existing plan review process

Measurable Goal 1: Continue reviewing all new development plans for compliance with the revised grading and erosion control regulations, subdivision ordinance and technical guidance. Document that all plans are reviewed.

Reporting and Record Keeping: Provide a hard copy of the tracking system, showing the number of plans review completed.

Measurable Goal 2: In FY??, train plan review staff on erosion and sediment control.

Reporting and Record Keeping: Provide training documentation showing that plan reviewers have received the training.

BMP 5: Develop and implement a program to receive, track and respond to erosion and sediment control complaints

Measurable Goal 1: By FY??, incorporate erosion and sediment control complaints fully into the existing complaint handling system. Track complaint type, complaint received date, complainant, inspection date and action taken.

Reporting and Record Keeping: Provide a hard copy of the complaint log/tracking system.

Measurable Goal 2: In FY??, develop and formalize policies and procedures for handling complaints.

Reporting and Record Keeping: Provide a copy of the policies and procedures.

BMP 6: Develop policies and procedures for erosion and sediment control inspections

Measurable Goal: In FY??, develop and implement an ongoing erosion and sediment control inspection program, assigning responsibilities and policies and procedures.

Reporting and Record Keeping: Provide a copy of all policies and procedures, including an inspection checklist.

BMP 7: Develop policies and procedures for enforcement of erosion and sediment control requirements

Measurable Goal: In FY??, develop policies and procedures for the enforcement program.

Reporting and Record Keeping: Provide a copy of the policies and procedures.

BMP 8: Train inspectors

Measurable Goal 1: In FY?? after the erosion and sediment control inspection program policies and procedures have been adopted, provide training to the inspection staff on the local requirements.

Reporting and Record Keeping: Retain documentation that all inspectors receive this training.

Measurable Goal 2: In FY??, require that all erosion and sediment control inspectors obtain certification as Certified Professional in Erosion and Sediment Control and maintain certification.

Reporting and Record Keeping: Retain documentation that all inspectors have received and are maintaining Certified Professional in Erosion and Sediment Control certification.

"(i) For those construction activities operated by the MS4 operator or MS4 municipalities within the MS4 area, construction plans must be submitted to the local SWCD, the department of natural resources, division of soil conservation, or other entity designated by the department for review and approval. If the MS4 operator does not receive either a notice of deficiency or an approval within thirty-five (35) days of the submittal, the plan will be considered adequate. After a one (1) year period of compliance, the MS4 operator or the designated MS4 entity need not submit the plans and may review MS4-operated project construction plans internally with the written authorization of the department of natural resources, division of soil conservation.*"

All construction plans submitted by an MS4 Operator will be reviewed following procedures and criteria as established in 327 IAC 15-5. Upon commencement of construction activity, representatives of the SWCD or department of natural resources, division of soil conservation will conduct periodic inspections of project sites to evaluate and determine compliance with the provisions of 327 IAC 15-5.

Written authorization of an MS4 to review plans internally will be based on a demonstrated ability of the MS4 to comply with the minimum requirements of 327 IAC 15-5. In some instances am MS4 may be granted limited authorization based on project size, type of project (i.e., highway, structures, infrastructure, parks), proximity of the project to a outstanding state resource water or exceptional use water, or if a specific area or watershed has been designated by the local SWCD or other entity for the purpose of study or accelerated land treatment to address water quality concerns.

If written authorization is received by an MS4 to review plans internally, the MS4 will not be required to submit the construction plans to the local SWCD or department of natural resources, division of soil conservation, however the MS4 will still be required to submit a Notice of Intent to the IDEM and a copy of the NOI to the local SWCD as required in 327 IAC 15-5.

The local SWCD or department of natural resources, division of soil conservation will retain the authority to request a copy of the construction plans as a reference while conducting site inspections or to review the construction plans to ensure that the plans continue to meet the minimum requirements of 327 IAC 15-5. Upon review of construction plans or documentation of on-site compliance issues, the department of natural resources, division of soil conservation may reinstate the submittal of plans for review for MS4 operated projects.

"(j) In addition to the requirements of 327 IAC 15-5-6.5, the MS4-operated project construction plans must include a traffic phasing plan for those projects that have the potential to alter vehicular traffic routes.*"

A traffic phasing plan, that describes the alternate vehicular traffic routes during the construction project, must be included with the construction plan submittal for all projects that alter traffic routes and the regulated MS4 entity is conducted itself.

"(k) In addition to the requirements of 327 IAC 15-5-6.5(b)(7), the MS4-operated project storm water pollution prevention plan must address the following areas outside of right-of-ways:*

(1) Utility relocation areas.
(2) Material hauling and transportation routes/roads.
(3) Borrow pits.
(4) Temporary staging and material stockpile areas.
(5) Temporary disposal areas for waste materials."

Areas that are associated with the construction activity, even ones that are off-site, must be addressed in the construction plan submittal for all projects that utilize the areas listed in subdivisions (1) through (5) and the regulated MS4 entity is conducting the project itself. The areas listed in subdivisions (1) through (5) have the potential to create polluted storm water run-off, via improper storage and transfer, excavation activity or vehicular

tracking.

SECTION 16 (327 IAC 15-13-16)
SWQMP POSTCONSTRUCTION STORM WATER RUN-OFF CONTROL MCM

"(a) An MS4 operator shall develop an SWQMP that includes a commitment to develop, implement, manage, and enforce a program to address discharges of postconstruction storm water run-off from new development and redevelopment areas that disturb one (1), or more, acre of land, or disturbances of less than one (1) acre of land that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) or more acres of land, within the MS4 area.*"

As part of the SWQMP-Part C: Program Implementation, a component must address the program for postconstruction requirements that will ensure adequate, long-term storm water quality for discharges from new development and redevelopment construction site activities to the MS4 conveyance system. Once the construction activity is complete, the postconstruction practices specified by the MS4 entity should be implemented to ensure adequate storm water quality is maintained from the developed site. The program will be enforceable through the development, or revision, of an ordinance or some other regulatory mechanism that addresses postconstruction run-off control.

"(b) Through the use of an ordinance or other regulatory means, an MS4 operator shall implement planning procedures to promote improved water quality. These planning procedures must include, at a minimum, the postconstruction requirements of 327 IAC 15-5-6.5(b)(8). Where appropriate, and to the extent of the MS4 operator's authority, the procedures may also include the following:*

(1) Buffer strip and riparian zone preservation.
(2) Filter strip creation.
(3) Minimization of land disturbance and surface imperviousness.
(4) Minimization of directly connected impervious areas.
(5) Maximization of open space.
(6) Directing the community's physical growth away from sensitive areas and toward areas that can support it without compromising water quality.

A certification form that combines the completed requirements of this subsection and subsection (e) shall be completed and submitted to the department once the ordinance or other regulatory means has been developed and a program has been implemented, or seven hundred thirty (730) days from the date the initial NOI letter submittal was received by the department, whichever is earlier. In subsequent permit terms, the certification form does not need to be completed and submitted. At a minimum, every five (5) years the regulatory means and program shall be reviewed for adequacy and accuracy, and updated, as necessary."

An MS4 entity must create, or revise, a policy, ordinance, or other regulatory mechanism to provide the necessary legal authorities to control, and, when necessary, penalize the

source of, noncompliance to the MS4 entity specifications created for postconstruction from land disturbances greater than or equal to one (1) acre, or disturbances of less than one (1) acre of land that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) or more acres of land. The planning procedures, at a minimum, must include the requirements of 327 IAC 15-5-6.5(b)(8), which addresses postconstruction. MS4 entities that do not have the ability to create or enforce ordinances will need to either create an enforceable policy document, or enter into a legal agreement with another entity to implement this control measure.

A certification form for the postconstruction run-off control minimum control measure program, available from IDEM, must be signed and submitted, at the latest, seven-hundred thirty (730) days from the initial NOI letter submittal. The extra year is intended to provide sufficient time to research the various structural BMPs that will be allowed within the MS4 area, and to place the requirements into an appropriate regulatory mechanism. This certification submittal is only necessary to establish the initial implementation of each control measure, and, therefore, only needs to be submitted during the first five-year permit term.

"(c) Where appropriate, an MS4 operator shall use any combination of storage, infiltration, filtering, or vegetative practices to reduce the impact of pollutants in storm water run-off on receiving waters. In addition to the combination of practices, the following requirements, shall be utilized:*

(1) Infiltration practices will not be allowed in wellhead protection areas.
(2) Discharges from an MS4 area will not be allowed directly into sinkholes or fractured bedrock, without treatment that results in the discharge meeting Indiana ground water quality standards as referenced in 327 IAC 2-11.
(3) Any storm water practice that is a Class V injection well must ensure that the discharge from such practices meets Indiana ground water quality standards as referenced in 327 IAC 2-11.
(4) As site conditions allow, the rate at which water flows through the MS4 conveyances shall be regulated to reduce outfall scouring and stream bank erosion.
(5) As site conditions allow, a vegetated filter strip of appropriate width shall be maintained along unvegetated swales and ditches.
(6) New retail gasoline outlets, new municipal, state, federal, or institutional refueling areas, or outlets and refueling areas that replace their existing tank systems, shall be required by MS4 ordinance or other regulatory means to design and install appropriate practices to reduce lead, copper, zinc, and polyaromatic hydrocarbons in storm water run-off."

(1) Identified wellhead protection areas are required for all community public water supply systems that utilize ground water as a drinking water source. Delineation of the wellhead protection areas and the identification of potential contamination sources are the responsibilities of the owner or operator of the community public water supply system.

To minimize the potential routes for pollutants to directly impact a subsurface public water supply, infiltration practices within the wellhead protection areas are not allowed. For purposes of this requirement, infiltration practices mean any practice constructed after the effective date of this rule that directs potentially polluted storm water into the subsurface, where it can expose pollutants to the public ground water supply.

(2) To minimize the pollutant effects of storm water discharges on subsurface aquifers, new direct discharges of storm water to sinkholes and fractured bedrock are not allowed. Direct discharge means intentionally conveying a surficial storm water flow to a sinkhole or fractured bedrock by altering the surrounding topography or installing a structural conveyance. If storm water is directed to a sinkhole or fractured bedrock, appropriate structural control practices, such as sedimentation basins and vegetated berms, must be utilized to ensure that the quality of the storm water entering the ground water interface meets ground water quality standards.

(3) A well, as defined in Title 40 of the Code of Federal Regulations, is either a dug hole or a bored, drilled or driven shaft whose depth is greater than its largest surface dimension. Injection is defined as the subsurface emplacement of fluids in a well where a fluid is any material that flows or moves whether it is semisolid, liquid, sludge or gas. Class V injection wells generally inject nonhazardous fluid, like storm water, into or above an Underground Source of Drinking Water.

Storm water drainage wells are Class V injection wells used to remove storm water or urban run-off from impervious surfaces such as roadways, roofs, and paved surfaces to typically provide treatment or prevent flooding and infiltration into basements. The primary types of storm water drainage wells are bored wells, dug wells, and improved sinkholes. Many existing wells and structural best management practices for storm water may be considered Class V injection wells, and must be inventoried with the U.S. EPA, Region V. This inventory requires the submittal of a completed form found in APPENDIX B of this document. For additional information, contact U.S. EPA's Underground Injection Control (UIC) Program at (312) 353-0829. The complete Class V UIC Study (EPA/816-R-99-014, September 1999), which includes a volume addressing storm water drainage wells (Volume 3), can be found at http://www.epa.gov/safewater/uic/cl5study.html

(4) Storm water quantity, combined with flow rates, can cause pollutant problems on receiving water quality. If a large volume of storm water is rapidly flowing out an outfall, it can cause outfall scouring, increased sedimentation, and bank erosion. To reduce this potential damage and environmental impact, the flow rate at outfalls where this is a potential issue must be moderated, where possible. This moderation is most appropriately addressed in preconstruction planning, and can be accomplished by providing more opportunities for upgradient infiltration and storage capacity. If reducing the flow rate is not feasible, the outfall area should be stabilized to help reduce the

scouring and erosive effects.

(5) Vegetated filter strips provide a means to filter and infiltrate storm water flows. To reduce the amount of sediment and other pollutants entering unvegetated open-channel conveyances that are unable to filter pollutants, a vegetated filter strip is recommended, where possible, on both embankments of the conveyance. If a filter strip is not feasible due to a lack of sufficient land area or other reason, then the open-channel conveyances should be evaluated for other types of BMPs to reduce the pollutant loadings.

(6) Fuels at retail gasoline outlets are a potential pollutant source for storm water run-off. To reduce storm water exposure to these sources, an MS4 entity must develop a regulatory mechanism to require appropriate practices at these outlets. Because these practices would only be required in the construction of new outlets or the replacement of existing tanks, they are another component of the MS4 area storm water planning, and the review of appropriate practices should be part of the building permit review process.

"(d) MS4 area personnel responsible for plan review, inspection, and enforcement of postconstruction BMPs shall receive, at a minimum, annual training, addressing such topics as appropriate control measures, inspection protocol, and enforcement procedures.*"

MS4 area personnel that are involved in the implementation of the postconstruction run-off control MCM must receive relevant storm water training. This training can be conducted "in-house" by MS4 entity staff or some other trainer, and must occur, at a minimum, annually. During an inspection of the MS4 area program, training documentation will be reviewed to verify that training is being conducted, is relevant to the postconstruction storm water run-off control MCM, and is reaching all the appropriate MS4 area personnel.

"(e) An MS4 operator shall develop and implement a written operational and maintenance plan for all storm water structural BMPs. A certification form that combines the completed requirements of this subsection and subsection (b) shall be completed and submitted to the department once the plan has been developed and implemented, or seven hundred thirty (730) days from the date the initial NOI letter submittal was received by the department, whichever is earlier. In subsequent permit terms, the certification form does not need to be completed and submitted. At a minimum, every five (5) years the operational and maintenance plan shall be reviewed for adequacy and accuracy, and updated, as necessary.*"

A written operational and maintenance plan must be developed and implemented by an MS4 entity for all structural BMPs. The plan must address inspection frequency, maintenance procedures, operational testing or observations to ensure proper function, preventative maintenance, and recordkeeping. Because it references the development and implementation of an operational and maintenance plan, the completed certification form used for the postconstruction storm water run-off control must be signed and submitted,

at the latest, seven-hundred thirty (730) days from the initial NOI letter submittal. At least every five years, the operational and maintenance plan must be reviewed for adequacy and accuracy.

"(f) An MS4 operator shall develop measurable goals for this measure. To comply with this measure, specific reduction percentages and timetables must be identified. At a minimum, goals must address relevant regulatory mechanism implementation, planning and structural BMP strategies, new impervious surface reduction, and discharge quality improvement.*"

The following information can be used to describe measurable goals:

Background Information

The Nationwide Urban Runoff Program study and more recent investigations indicate that prior planning and designing for the minimization of pollutants in storm water discharges is the most cost-effective approach to storm water quality management. Reducing the discharge of pollutants after the discharge enters a storm sewer system is often more expensive and less efficient than preventing or reducing the discharge of pollutants at the source. Increased human activity associated with development often results in increased discharges of pollutants. In addition, sediment and debris transport and deposition can directly impair aquatic life. If the involved parties consider water quality impacts from the beginning stages of projects, new development and possibly redevelopment allow opportunities for more water quality sensitive projects.

In the preamble to the NPDES Phase II rule, EPA encourages local governments to identify specific problem areas within their jurisdictions and initiate innovative solutions and designs to focus attention on those areas through local planning. In today's rule, EPA is proposing that owners or operators of regulated small municipal separate storm sewer systems develop, implement and enforce a program that includes a plan to address storm water run-off from new development and redevelopment projects to their municipal separate storm sewer systems using site-appropriate and cost-effective structural and non-structural BMPs, as appropriate.

- The program would need to ensure that controls are in place that would prevent or minimize water quality impacts.
- The program should ensure adequate long-term operation and maintenance of BMPs. EPA would address questions regarding responsibility for long-term BMP operation and maintenance in guidance materials.
- EPA intends the term ''redevelopment'' to refer to alterations of a property that change the ''footprint'' of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm

water controls.

- EPA intends to provide guidance to owners or operators of municipal systems and permitting authorities on appropriate planning considerations, structural and non-structural controls, and post-construction operation and maintenance of BMPs.
- EPA also intends to present a broad menu of options as guidance allowing for flexibility to accommodate local conditions.
- EPA proposes to recommend that municipalities establish requirements for the use of cost-effective BMPs that minimize water quality impacts and attempt to maintain pre-development runoff conditions. In other words, post-development conditions should not be different from pre-development conditions in a way that adversely affects water quality.

The municipal program should include structural and/ or non-structural BMPs. EPA encourages locally-based watershed planning and the use of preventative measures, including non-structural BMPs, which are generally lower in cost than structural BMPs, to minimize water quality impacts. Non-structural BMPs are preventative actions that involve management and source controls.

Examples of non-structural BMPs are policies and ordinances that result in protection of natural resources and prevention of run-off. These include:

- Requirements to limit growth to identified areas;
- Protect sensitive areas such as wetlands and riparian areas;
- Minimize imperviousness;
- Maintain open space; and
- Minimize disturbance of soils and vegetation.

Examples of structural BMPs include:

- Storage practices (wet ponds and extended-detention outlet structures);
- Filtration practices (grassed swales, sand filters and filter strips); and
- Infiltration practices (infiltration basins, infiltration trenches, and porous pavement).

System owners or operators have significant flexibility both to develop this measure as appropriate to address local concerns and to apply new control technologies as they become available. Since storm water technologies are constantly being improved, EPA recommends that municipal requirements be responsive to these changes.

Postconstruction Compliance Program

Reporting and Record Keeping – The MS4 Operator, or the person responsible for attending Storm Water Planning Group meetings, must retain copies of documents (e.g., regional policies, boilerplate maintenance checklist, etc.) necessary to show achievement of each measurable goal.

The following hypothetical examples illustrate how measurable goals could be used to track and document program effectiveness at reducing pollutants. IDEM does not attempt to develop guidance on measurable goals for every potential BMP, and the following list of measurable parameters is not comprehensive. The list is intended to serve as a guide.

ALTERNATIVE TURNAROUNDS ! The reduction in impervious cover. ! The number of turnarounds modified. ! Whether or not development codes were changed to allow alternative turnarounds. ! The reduction in run-off quantity. ! Changes in the physical characteristics of streams downstream from modified areas.

ALTERNATIVE PAVERS ! Whether or not development codes were changed to allow for alternative pavers. ! The amount of new alternative paver installations added or replaced. ! The number of new development sites that use alternative pavers. ! The reduction in run-off quantity. ! Changes in the physical characteristics of streams downstream from areas with alternative paver installations.

ALUM INJECTION ! Whether or not an inventory of sites where alum injection was used was completed. ! Changes in water quality. ! Changes in biological populations.

BIORETENTION ! The reduction in impervious cover. ! The reduction in run-off quantity. ! Changes in run-off water quality (nutrients, sediments, metals, organics, etc.). ! The number of new bioretention cells installed (both commercial and residential). ! The number of acres that are drained by bioretention cells.

BMP INSPECTION AND MAINTENANCE ! The frequency of inspection and maintenance activities. ! The number of problems that were identified and remedied. ! The change in the proportion of BMPs that are well-maintained as a result of inspection and maintenance. ! Whether or not an inventory of BMPs requiring maintenance was completed and is regularly updated. ! Changes in water quality of effluent from BMPs.

BUFFER ZONES ! Whether or not development codes were changed to require buffer zones. ! The acreage of land conserved as buffers. ! The acreage of land converted to buffers. ! Changes in water quality of run-off leaving buffer areas. ! Changes in the physical characteristics of streams downstream from areas with buffer zones.

CATCH BASIN ! Whether or not an inventory of catch basins was completed. ! The number of catch basins retrofitted with filtering devices. ! The quantity of sediment removed from catch basins.

CONSERVATION EASEMENTS ! The acreage of land conserved under easements. ! Whether or not an inventory of lands that could be conserved with conservation easements was completed.

DRY EXTENDED DETENTION PONDS ! The reduction in run-off quantity. ! Changes in water quality of effluent from the dry pond outlet. ! The number of new dry ponds installed. ! The acreage of land drained by dry ponds.

ELIMINATING CURBS AND GUTTERS ! Whether or not development codes were changed. ! The reduction in run-off quantity. ! The number of new developments without curbs and gutters. ! The number of curb cuts made in existing developments. ! The number of miles of gutterless streets.

GRASSED SWALES ! The number of new grassed swales installed. ! The miles of streets with grassed swales. ! The reduction in run-off quantity. ! The reduction in run-off velocity. ! Changes in water quality of run-off from areas with grassed swales. ! The number of acres drained by grassed swales.

GRASSED FILTER STRIP ! The number of new grassed filter strips installed. ! The miles of streets with grassed filter strips. ! The reduction in run-off quantity. ! The reduction in run-off velocity. ! Changes in water quality of run-off from areas with grassed filter strips. ! The number of acres drained by grassed filter strips.

GREEN PARKING ! Whether or not development codes were changed to allow green parking. ! The number of new green parking lots installed. ! The reduction in run-off quantity. ! The number of impervious acres served by green parking lots. ! The number of impervious lots converted to green lots.

IN-LINE STORAGE ! The reduction in peak flow of run-off. ! The number of basins retrofitted with flow regulators. ! The acreage drained by in-line storage systems.

INFILTRATION BASIN ! The reduction in run-off quantity. ! Changes in water quality. ! The number of new infiltration basins installed. ! The acreage drained by infiltration basins.

INFILTRATION TRENCH ! The reduction in run-off quantity. ! Changes in water quality. ! The number of new infiltration trenches installed. ! The acreage drained by infiltration trenches.

INFRASTRUCTURE PLANNING ! Whether or not development codes were modified. ! The number of new developments using storm water BMPs. ! The reduction in impervious surface area and infrastructure.

MANUFACTURED PRODUCTS FOR STORM WATER INLETS ! Whether or not an inventory of areas where installation of manufactured products would be appropriate was completed. ! Whether or not a review was conducted to identify which products would be best for each inlet. ! The number of manufactured products installed in storm

water inlets. ! Changes in water quality.

NARROWER RESIDENTIAL STREETS ! Whether or not development codes were modified. ! The reduction in impervious surface area. ! The number of new developments that use narrow streets. ! The number of miles of narrow streets.

ON-LOT TREATMENT ! The reduction in run-off quantity. ! The reduction in run-off peak flow. ! The number of lots that use on-lot treatment. ! The acreage of impervious surfaces that drain to on-lot treatment BMPs. ! The number of manufactured products sold to store run-off on site (i.e., rainbarrels). ! Changes in water quality downstream from areas that use on-lot treatment.

OPEN SPACE DESIGN ! Whether or not development codes were modified to accommodate open space developments. ! The number of new developments that use open space design principles. ! The number of acres of open space preserved with open space design.

ORDINANCES FOR POSTCONSTRUCTION RUN-OFF ! Whether or not an ordinance was developed to address post-construction run-off. ! The projected amount of impervious cover reduced under the new ordinance. ! The number of enforcement actions that occur as a result of the new ordinance.

POROUS PAVEMENT ! Whether or not development codes were modified to allow for porous pavement. ! The amount of new porous pavement added or replaced. ! The number of new development sites that use porous pavement. ! The reduction in run-off quantity. ! Changes in the physical characteristics of streams downstream from areas with porous pavement installations.

SAND AND ORGANIC FILTERS ! Changes in water quality. ! The reduction in run-off quantity. ! The number of new sand and organic filters installed. ! The acreage of impervious surface that drains to sand and organic filters.

STORM WATER WETLAND ! Changes in water quality. ! The reduction in run-off quantity. ! The number of storm water wetlands created. ! The acreage of impervious surface that drains to storm water wetlands.

URBAN FORESTRY ! Whether or not development codes were modified to promote urban forestry. ! Whether or not an ordinance was developed to promote urban forestry. ! The number of trees planted as a result of urban forestry initiatives. ! The acreage of treed land. ! The reduction in run-off quantity. ! Changes in water quality. ! The acreage of forest habitat created. ! Aesthetic and shade benefits.

WET PONDS ! Changes in water quality. ! The reduction in run-off quantity. ! The

number of wet ponds installed. ! The acreage of impervious surface that drains to wet ponds.

ZONING ! Whether or not development codes were modified. ! The amount of open space protected with new zoning codes. ! The projected number of new storm water treatment areas expected under the new zoning codes. ! The projected number of upgrades to existing storm water facilities expected as a result of changes in expected development density.

SECTION 17 (327 IAC 15-13-17)
SWQMP MUNICIPAL OPERATIONS POLLUTION PREVENTION AND GOOD HOUSEKEEPING MCM

"(a) An MS4 operator shall develop a SWQMP that includes a commitment to develop and implement a program to prevent or reduce pollutant run-off from municipal operations within the MS4 area.*"

As part of the SWQMP-Part C: Program Implementation, a component must address the program for storm water discharges from MS4 entity activities to the MS4 conveyance system. Depending on the appropriateness of utilized material storage and chemical application practices and storm water conveyance maintenance, an MS4 entity, or their contractors, can impact the quality of storm water.

"(b) To the extent of their authority, an MS4 operator shall develop and implement a program to ensure that existing municipal, state or federal operations are performed in ways that will reduce contamination of storm water discharges. A certification form must be completed and submitted to the department once the program has been developed and implemented, or three hundred sixty-five (365) days from the date the initial NOI letter submittal was received by the department, whichever is earlier. In subsequent permit terms, the certification form does not need to be completed and submitted. At a minimum, every five (5) years the program shall be reviewed for adequacy and accuracy, and updated, as necessary. This program must include the following:*

(1) Written documentation of maintenance activities, maintenance schedules, and long term inspection procedures for BMPs to reduce floatables and other pollutants discharged from the separate storm sewers. Maintenance activities shall include, as appropriate, the following:

(A) Periodic litter pick up as defined in the MS4 area SWQMP.
(B) Periodic BMP structure cleaning as defined in the MS4 area SWQMP.
(C) Periodic pavement sweeping as defined in the MS4 area SWQMP.
(D) Roadside shoulder and ditch stabilization.
(E) Planting and proper care of roadside vegetation.
(F) Remediation of outfall scouring conditions.

(2) Controls for reducing or eliminating the discharge of pollutants from operational

areas, including roads, parking lots, maintenance and storage yards, and waste transfer stations. Appropriate controls shall include the following:

(A) Covering, or otherwise reducing the potential for polluted storm water run-off from, deicing salt or sand storage piles.

(B) Establishing designated snow disposal areas that have minimal potential for pollutant run-off impact on MS4 area receiving waters.

(C) Providing facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials.

(D) Standard operating procedures for spill prevention and clean up during fueling operations.

(E) BMPs for vehicular maintenance areas.

(F) Prohibition of equipment or vehicle wash waters and concrete or asphalt hydrodemolition waste waters into storm water run-off, except under the allowance of an appropriate NPDES wastewater permit.

(G) Minimization of pesticide and fertilizer use. Pesticides shall be used, applied, handled, stored, mixed, loaded, transported, and disposed of via office of the Indiana state chemist's guidance requirements.

(H) Proper disposal of animal waste. If applicable, it is recommended that canine parks be sited at least one hundred fifty (150) feet away from a surface waterbody.

(3) Written procedures for the proper disposal of waste or materials removed from separate storm sewer systems and operational areas. All materials removed from separate storm sewer systems and operational areas, including dredge spoil, accumulated sediments, floatables, and debris, must be:

(A) Reused or recycled; or

(B) Disposed of in accordance with applicable solid waste disposal regulations.

(4) Written documentation that new flood management projects are assessed for their impacts on water quality and existing flood management projects are examined for incorporation of additional water quality protection devices or practices.

(5) Written documentation that appropriate MS4 entity employees have been properly trained, with periodic refresher sessions, on topics such as proper disposal of hazardous wastes, vegetative waste handling, fertilizer and pesticide application, and the function of implemented BMPs."

(1) Maintenance of the MS4 conveyances is essential to reducing the potential for pollutants to be exposed to the storm water run-off. Clauses (A) through (F) provide the minimum maintenance activities that should be addressed as part of this maintenance program. However, if activities listed in these clauses are not feasible due to inappropriateness or limited benefit (e.g., street sweeping when the MS4 entity does not already have a sweeper and the vast majority of the street system is uncurbed), the activities do not need to be conducted. The rationale used to omit, or substitute for, any of the activities in clauses (A) through (F) must be provided in the SWQMP-Part C: Program Implementation.

(2) In situations where municipal operations are potentially subject to the requirements of both 327 IAC 15-13 and 327 IAC 15-6, the municipality will only be required to obtain permit coverage under 327 IAC 15-13, assuming the operation is addressed in the municipality's storm water quality management plan.

(3) Storm water can transport many types of materials during periods of heavy flow. The materials will generally stay suspended within, or on, the moving water until the speed of the storm water decreases to a point that the materials will settle out of the water. The speed of the storm water will slow in various types of structures or areas such as detention basins, dikes, check dams, berms, or certain types of ditches or swales. The transported materials will accumulate, over time, in these types of low flow structures or areas. The exact composition of the materials will be reflective of the area over which the storm water flowed. Removal of these accumulated materials is part of routine maintenance, and is essential in maintaining the effectiveness of the low flow structures or areas.

The materials accumulated from less urbanized areas will primarily consist of transported soil, leaves, grass, sticks, and other natural substances. A reuse of these materials as soil amendments may be appropriate; therefore, these types of materials may have beneficial reuse, and will likely not be classified as wastes.

On the other end of the spectrum, urbanized areas with high percentages of impervious surfaces and anthropogenic sources will transport different types of materials such as waste paper, scrap food, food containers, cigarette butts, grit, rubber particles, oils and greases, synthetic organic compounds, and many other types of man-made substances. These types of collective materials will have no beneficial reuse, are likely to meet the definition of solid waste in 327 IAC 15-13-5(71), and need to be properly disposed of in accordance with applicable solid waste disposal regulations.

(4) Flood management projects have typically been proposed to address storm water quantity problems. It is a better use of limited resources to initiate a procedure to review the flood management projects in the preconstruction phase to determine if additional BMPs can be designed into the project to improve the water quality.

In addition to new flood management projects, existing flood management projects and structural BMPs built to address storm water quantity problems must be reviewed to determine if it is feasible to retrofit them with storm water quality control measures. Each existing project and BMP may not support a retrofit, but the review must be conducted and the results reported in the either in the SWQMP-Part C: Program Implementation or the annual reports.

(5) MS4 area personnel that are involved in the MS4-entity operational activities where pollution prevention and good housekeeping can be utilized must receive relevant storm

water training. This training can be conducted “in-house” by MS4 entity staff or some other trainer, and must occur, at a minimum, annually. During an inspection of the MS4 area program, training documentation will be reviewed to verify that training is being conducted, is relevant to the pollution prevention and good housekeeping for municipal operations MCM, and is reaching all the appropriate MS4 area personnel.

”(c) An MS4 operator shall develop measurable goals for this MCM. To comply with this measure, specific reduction percentages and timetables must be identified. As applicable or, if not applicable, then appropriately justified, goals must address relevant catch basin cleaning and street sweeping procedures, employee training, recycling program implementation, pesticide, fertilizer and sand or salt usage reductions, floatables reduction, and maintenance schedule for BMPs.*”

The following hypothetical examples illustrate how measurable goals could be used to track and document program effectiveness at reducing pollutants. IDEM does not attempt to develop guidance on measurable goals for every potential BMP, and the following list of measurable parameters is not comprehensive. The list is intended to serve as a guide.

ALTERNATIVE PRODUCTS ! The number of educational materials distributed. ! The number of consumers surveyed who have increased their use of alternative products.

ALTERNATIVE DISCHARGE OPTIONS FOR CHLORINATED WATER ! Whether or not an ordinance was developed to prevent direct discharge of chlorinated water. ! The number of pool owners informed of the options for discharging chlorinated water. ! Chlorine levels in receiving waters. ! The number of enforcement actions pertaining to pool water discharges.

AUTOMOBILE MAINTENANCE ! The number of employees trained in preventing pollution from automobile maintenance activities. ! The number of sites rewarded as being a "clean site" under a rewards program. ! The number of spills reported. ! The number of educational materials distributed at garages, auto shops, and other automobile-related businesses.

HAZARDOUS MATERIALS STORAGE ! The number of regularly inspected storage units. ! The number of employees trained in hazardous material storage and maintenance. ! The total number of storage facilities equipped to store hazardous materials. ! The level of toxic pollutants in receiving waters. ! The number of materials distributed educating citizens on home storage of hazardous materials.

ILLEGAL DUMPING CONTROL ! Whether or not areas where illegal dumping is common were identified. ! The number of "no dumping" signs posted. ! The number of educational materials distributed. ! The number of reports of illegal dumping received.

! The number of dump sites cleaned up. ! The number of sites improved to eliminate them as target dumping spots. ! The number of enforcement actions pertaining to illegal dumping. ! Whether or not a partnership with the community was established to promote reporting and to educate citizens.

LANDSCAPING AND LAWN CARE ! The number of stores/gardens participating in education program. ! The number of people trained in safe landscaping, lawn care, and pest management techniques. ! The number of classes/seminars offered in landscaping and lawn care. ! The number of educational materials distributed. ! Whether or not a survey of lawn and landscaping methods used by the community was conducted.

MATERIALS MANAGEMENT ! The number of facilities storing hazardous materials. ! The frequency of inspection and maintenance visits to storage facilities. ! The number of personnel trained in hazardous material handling and storage. ! The amount of waste generated by municipal operations. ! Whether or not an inventory of hazardous materials was created for each storage facility. ! The number of facilities storing hazardous materials within secondary containment structures.

PARKING LOT AND STREET CLEANING ! Whether or not roads and parking lots were inventoried and prioritized for cleaning. ! The number of scheduled road cleanings. ! The suspended solids levels in run-off. ! The pounds of debris collected from street sweeping.

PEST CONTROL ! The number of businesses participating in education at the point of purchase. ! The number of municipal employees trained in integrated pest management. ! Pesticide levels in run-off and receiving waters. ! The number of educational materials distributed.

PET WASTE COLLECTION ! The number of dog parks. ! The number of signs posted stating regulations. ! The number of educational materials distributed. ! The number of "pooper-scooper" stations installed. ! Whether or not an ordinance was created to address pet waste.

ROAD SALT APPLICATION AND STORAGE ! The number of storage facilities included in a regular inspection and maintenance program. ! The number storage facilities repaired. ! The number of employees trained in road salt application. ! The quantity of salt applied to roadways. ! The quantity of alternative products used. ! The water quality at outfalls near downstream of storage facilities. ! The number of facilities storing salt under cover. ! The number of facilities with salt or sand mixing or loading areas under cover. ! The number of lane miles treated with alternative products. ! The number of salt beds or trucks modified to reduce salt “bounce” to the highway/street berm.

ROADWAY AND BRIDGE MAINTENANCE ! Whether or not a current list of roadway and bridge construction is maintained. ! The quantity of debris removed from construction sites. ! The number of employees trained in pollution prevention techniques. ! The amount of deicing salts used. ! The number of catch basins at constructions sites that are cleaned regularly. ! The number of highway and bridge storm drains diverted from discharging to waters of the state to detention ponds.

SEPTIC SYSTEMS CONTROLS ! The number and location of septic systems. ! The number of systems that are inspected and maintained regularly. ! The number of reminder and educational flyers distributed. ! The number of people trained in inspection and installation of septic systems. ! The number of failed septic systems.

SPILL RESPONSE AND PREVENTION ! Whether or not an inventory of municipal facilities at risk for spills was created. ! The number of leak detection devices installed at municipal facilities. ! The number of preventative maintenance procedures performed on tanks, valves, pumps, pipes, and other equipment. ! Whether or not a spill response plan was developed for municipal facilities. ! The number of personnel trained in spill response. ! The number of regularly inspected high-risk facilities. ! The number of educational materials distributed to municipal employees.

STORM DRAIN SYSTEM CLEANING ! Whether or not areas with high pollutant loadings were inventoried and prioritized for cleaning. ! The length of storm drain pipe cleaned regularly. ! The number of outfalls cleaned regularly. ! The amount of trash, sediment, and other pollutants removed during cleaning. ! Water quality at storm drain system outfalls.

USED OIL AND OTHER VEHICLE FLUIDS RECYCLING ! The number of gallons of used oil, antifreeze, transmission fluid, unusable fuel and “parts washing” fluids collected from municipal operations. ! The number of recycling facilities that collect oil from municipal operations. ! The number of educational materials distributed to municipal employees.

VEHICLE WASHING ! The number of educational materials distributed to municipal employees. ! The number of designated municipal vehicle washing areas.

The following eight (8) BMP examples can be used to describe measurable goals:

BMP 1: Annual training for erosion and sediment control inspectors

This is also a compliance activity for Control Measure 4. Please refer to Section 1.4 for more information.

BMP 2: Annual staff training on illicit discharges

This is also a compliance activity for Control Measure 3. Please refer to Illicit Discharge Detection and Elimination Section for more information. Other training activities discussed in the two next sections can be combined if convenient and cost-effective.

BMP 3: Annual staff training on erosion and sediment control

Compliance Information: The erosion and sediment control requirements developed under Control Measure 4 also apply to construction activities performed by City and County staff. Therefore, maintenance staff that perform construction activities need training on local requirements and the proper installation and maintenance of erosion and sediment control measures.

Measurable Goal: Beginning in FY??, provide at least two hours of education annually to appropriate maintenance, operations and engineering staff on erosion and sediment control measure installation and maintenance practices.

Reporting and Record Keeping: Retain a copy of the training topic(s), names and titles/job description of personnel trained per session, and date of each session. If staff are sent to an outside agency for training, retain a copy of any certificate(s) obtained at the training.

BMP 4: Annual staff training on pollution prevention and good housekeeping practices

Compliance Information: The Federal regulation requires that communities provide training to prevent and reduce storm water pollution from municipal operations, such as park maintenance, fleet and building maintenance.

Measurable Goal: Beginning in FY??, provide two hours of education annually to appropriate maintenance, operations and engineering staff on storm water pollution prevention and good housekeeping practices for municipal operations. Training topics can include, but are not limited to: local ordinances, policies or requirements for pollution prevention; proper installation and maintenance of erosion control measures; proper application of pesticides and herbicides in parks and open spaces; proper fleet maintenance practices; spill prevention and cleanup; streambank maintenance guidelines; storm water system maintenance; etc.

Reporting and Record Keeping: The MS4 Operator or trainer must write a brief narrative of topics covered during each training session and the training methods (e.g., PowerPoint presentation, field training, video, etc.). Retain a copy of the narrative, personnel trained per session, and date of each session.

BMP 5: Roadside Litter Management

Measurable Goal: Perform litter pickup activities along roadways and known problem/priority areas weekly. Clean other areas as needed.

Reporting and Record Keeping: Develop a map that highlights the major roadways and priority areas that are targeted as priority areas for litter pickup, and retain for reporting purposes. Develop and implement a log of litter pickup activities.

BMP 6: Street Sweeping

Measurable Goal: Perform sweeping of main roadways and priority (high pedestrian) areas weekly. Sweep all City streets twice per year.

Reporting and Record Keeping: Develop a map that highlights the main roadways and priority areas that are targeted as priority areas for street sweeping, and retain for reporting purposes. Develop and implement a log of sweeping activities.

BMP 7: Required use of City vehicle wash facility

Measurable Goal: Beginning in FY??, perform vehicle-washing operations in facility that does not allow wash water to reach storm drains. Develop and distribute a short memo/policy statement to staff educating them on the purpose of the special facility and stating that the truck wash facility must be used for all City vehicle wash activities.

Reporting and Record Keeping: Retain a copy of the memo/policy statement. This memo can also be utilized for compliance with the pollution prevention training activity discussed previously.

BMP 8: Develop and implement a Good Housekeeping Improvement Plan

Measurable Goal: In FY??, examine current municipal operations to determine where additional pollution prevention activities, policies, training or structural measures are needed.

Reporting and Record Keeping: After reviewing existing operations, develop a list of needed improvements (e.g., good housekeeping solutions) and schedule for implementation of all improvements by March 10, 2008. Retain the good housekeeping improvements schedule for submittal to TDEC. Also keep documentation of good housekeeping improvements implemented as part of the plan

"(d) In combined sewer system municipalities designated under this rule, the current CSOOP and LTCP will need to be reviewed, and any necessary language changes to ensure consistency with the SWQMP must be included in the plans to ensure that this MCM requirement is met.*"

CSO Communities will need to review the CSOOP and LTCP to ensure the Good Housekeeping and Pollution Prevention provisions have been included. These provisions should have been addressed initially in the minimum controls of the CSOOP, and revised in the LTCP. However, the community must review these submittals to ensure they address the entire MS4 area. Any needed changes will be added to the LTCP as an addendum.

SECTION 18 (327 IAC 15-13-18)
REPORTING REQUIREMENTS

"(a) An MS4 operator regulated under this rule shall submit an annual report to the department the following information:*

(1) Progress towards development, implementation, and enforcement of all MCMs, including updated programmatic indicator data.

(2) Summary of complaints received and follow-up investigation results related to storm water quality issues.

(3) Updated measurable goals.

(4) Storm water BMPs installed or initiated.

(5) Follow-up or additional water quality characterization.

(6) Updated active industrial facilities list.

(7) Implementation problems encountered, including BMP changes due to ineffectiveness or infeasibility.

(8) Funding sources and expenditures.

(9) Changes to MS4 area boundaries, including land areas added to the MS4 area via annexation or other similar means.

(10) Identified storm water quality improvement projects.

(11) Updated receiving water information.

The initial annual report shall be postmarked no later than three hundred sixty-five (365) days from the date the SWQMP-Part C: Program Implementation submittal was received by the department. Subsequent report submittals during the first five (5)-year permit term shall be provided no later that three hundred sixty-five (365) days from the previous report in years three (3), four (4), and five (5). In subsequent permit terms, reports must be submitted in years two (2) and four (4)."

An annual report must be submitted to IDEM that addresses the items in subdivisions (1) through (11) of this rule. Three annual reports will be due (in years three, four, and five) during the first five-year permit term, and two annual reports will be due (in years two and four) during subsequent renewal permit terms.

"(b) An MS4 operator shall submit a monthly construction site project summary to the department, containing a listing of all project names associated with section 15 of this rule, the project address, project duration, and an indication of enforcement actions undertaken. If no projects occur within a given month, a report does not need to be submitted. Reports must be

postmarked no later than the last day of the following month. The commissioner may develop criteria for an alternative acceptable timetable for submission of this summary."

IDEM will retain oversight for the storm water construction site run-off control measure. The permitting and enforcement decisions made by a regulated MS4 entity under the construction site storm water run-off minimum control measure in this rule shall be deemed equivalent to IDEM making a decision, but these local decisions can be further scrutinized by IDEM, or their designated representative (i.e., the Department of Natural Resources, Division of Soil Conservation). The primary purpose of submitting construction site summaries is to ensure that the program established by a regulated MS4 entity is being adequately implemented. This program adequacy corresponds to permitting projects, enforcing program requirements, conducting construction plan review and project site inspections, and tracking projects for completion.

"(c) The summary required under subsection (b) must address those projects for which there has been:*

(1) An NOI letter submittal, or its equivalent, to the MS4 entity; or
(2) A Notice of Termination letter, or its equivalent, processed by the MS4 entity."

The monthly summary report of construction activities must address new projects (i.e., ones that have submitted NOI letters) and terminated projects (i.e., ones that have submitted Notice of Termination letters). By submitting this information, IDEM can track: (1) new projects within the regulated MS4 areas to ensure all construction projects meeting the applicability requirements of 327 IAC 15-5 are being addressed; and (2) existing project terminations to provide closure data for projects within regulated MS4 areas.

"(d) An MS4 operator shall certify by signature on the annual report form that information provided is true and accurate.*"

The MS4 operator must sign the certification paragraph found in 327 IAC 15-4-3(g)(3), which is also contained in the annual report. By signing the annual report, the MS4 operator is agreeing that all the items in the report have been adequately addressed by the MS4 entity or entities covered by the NOI letter.

SECTION 19 (327 IAC 15-13-19)
PERMIT DURATION

"(a) The permits under this rule are valid for five (5) years, from the date the initial NOI letter was received by the department. Renewal application for the permit is required at least sixty (60) days prior to the expiration date. Coverage under renewal NOI letters will begin on the date of expiration from the previous five (5) year permit term.*"

A general permit issued under this rule is valid for five years from the receivership date of the NOI letter submittal. Renewal applications must be submitted at least 60 days prior to the expiration date of the permit. The 60-day period, in part, is meant to allow IDEM an opportunity to review the submitted information for completeness and appropriateness under the general permit issued under this rule prior to the existing permit's expiration.

"(b) If MS4 entity conditions change within an MS4 area, written notification of the changes must be submitted to the commissioner.*"

If changes occur within a regulated MS4 entity which cause the original information provided in the NOI letter or SWQMP-Part A: Initial Application to be inaccurate or inappropriate, the changes must be submitted to IDEM. Although unspecified in this rule, the changes should be documented, and a written submittal of the changes should be submitted within 30 days of becoming aware of the changes. If the changes occur after the first year of general permit coverage, the corresponding annual report should also contain a summary of the changes.

"(c) For a complete renewal application to be sufficient, a new NOI letter and SWQMP-Part A: Initial Application must be submitted in accordance with sections 6 and 9 of this rule.*"

A new NOI letter and SWQMP-Part A: Initial Application must be submitted with a renewal application. The submittal of these new documents ensures that the information is complete and current in the renewal application. For some of the required information, "check boxes" on the forms can be used when all the information in a particular section of the NOI letter or SWQMP-Part A: Initial Application is identical to previous submittals.

"(d) Permits may be reissued on a watershed basis, to take into account surface water quality monitoring strategies and sampling data analyses for individual drainage areas.*"

After the five-year permit duration has expired, renewal permits under this rule may be reissued on a watershed basis. IDEM's assessment program has a surface water quality monitoring strategy that is, in part, based on watershed boundaries. Total Maximum Daily Load (TMDL) studies are conducted on specific waterbodies. As the monitoring strategy data and TMDL studies are completed, IDEM may determine that storm water permits issued on a watershed boundary basis provide more opportunities for overall water quality protection within a watershed.

"(e) Subsequent permits will require the MS4 operator to maintain and, where possible, improve their performance in implementing the six (6) MCMs.*"

The SWQMP-Part C: Program Implementation should be a constantly changing document, as identified problems are solved, best management practices are utilized, and

technology improvements are developed. Due to these improvement changes, implementation planning should be reevaluated to determine effectiveness and possible improvement alternatives. If, after five years of permit coverage, the implementation of control measures is complete and effective, it is unlikely, but possible, that further performance improvements are not feasible or warranted. In this case, the MS4 operator must maintain the adequate level of control measure performance during subsequent permit terms. In most cases, however, subsequent permit terms will provide an opportunity for implementation improvements.

SECTION 20 (327 IAC 15-13-20)
PERMIT TERMINATION

"(a) An MS4 entity may request the department to terminate permit coverage under this rule if:*
(1) based on physical changes in the MS4 area, the permit is no longer needed;
(2) based on a lack of cooperation between MS4 entities, a new general permit NOI letter is needed; or
(3) based on documented reductions in population, population density, occupancy, or enrollment that result in numbers below minimum designation criteria. A request based on subdivision (3) will only be considered once a permit under this rule has expired."

A regulated MS4 entity can initiate termination of a general permit under this rule if one of the conditions in subdivisions (1) through (3) apply. Under subdivision (1), coverage under a storm water permit may no longer be necessary due to MS4 entity changes, like the elimination of all storm water discharges to waters of the state and other regulated MS4 entities. Under subdivision (2), the general storm water permit may be terminated, and, due to a lack of cooperation, new general and/or individual MS4 permits issued for the MS4 area based on willingness to cooperate. Under subdivision (3), an MS4 entity may, at some point after designation, determine that conditions have changed which cause the entity to not meet the designation criteria of this rule. So that coverage and documentation is adequate and consistent throughout the permit term, termination under subdivision (3) will not be processed until the general permit renewal NOI letter is submitted. If allowed, the termination under subdivision (3) would take effect on the date of general permit expiration.

"(b) The department may terminate permit coverage under this rule and require an MS4 entity to apply for an individual permit if one (1) of the six (6) cases referenced in 327 IAC 15-2-9(b) is applicable.*"

IDEM can initiate termination of a general permit under this rule if one of the conditions in subdivisions (1) or (2) apply. Under subdivision (1), effluent standards and limitations may be promulgated, especially on the federal level, which provide numeric values to municipal storm water discharges. If numeric values are placed on discharges, the general permit under this rule would no longer be adequate, and an individual MS4

permit would be requested. Under subdivision (2), IDEM will be reviewing MS4 entity submittal information and observing on-site conditions via inspections. If, during this informational gathering, water quality is not being adequately protected, an individual MS4 permit with more specific requirements may be requested. The rationale used by IDEM to make these determinations would be provided to the MS4 entity asked to submit an individual MS4 permit application.

SECTION 21 (327 IAC 15-13-21)
STANDARD CONDITIONS

*"*In addition to the conditions set forth in this rule, the standard conditions for the NPDES general permit rule under 327 IAC 15-4 shall apply also to this rule.*"

The conditions, as appropriate, of 327 IAC 15-4 apply to this rule. Three of these conditions are: (1) civil penalties up to $25,000 per day per violation for first-time violations of any rule, and/or possible imprisonment for up to one year for willful or negligent violations of any rule; (2) maintaining all facilities and systems used for collection and treatment in good working order and efficiently operating; and (3) 24-hour oral reporting to IDEM of any noncompliance which may pose a significant danger to human health of the environment. The oral reporting must be reported to IDEM's Office of Enforcement at (317) 232-8603.

SECTION 22 (327 IAC 15-13-22)
INSPECTION AND ENFORCEMENT

"(a) The commissioner may inspect an MS4 entity regulated under this rule at any time. Any documentation required in sections 6 through 20 of this rule, or related to implementation of this rule must be available at the physical address corresponding to the MS4 operator or primary contact individual for review by the commissioner during normal business hours.*"

IDEM has the authority to inspect any regulated MS4 entity for compliance with this rule. A review of the documentation required by this rule may be part of the compliance inspection, and must be available during an inspection.

"(b) At a minimum, records shall be established and maintained at the address referenced in subsection (a) for the five (5) years of the permit term. The five (5) year period will be extended:*
(1) automatically during the course of any unresolved litigation regarding the discharge of pollutants by the MS4 operator, or other MS4 entity regulated by the MS4 area permit, or regarding promulgated effluent guidelines applicable to the MS4 area; or
(2) as requested by the regional administrator of the United States Environmental Protection Agency, or commissioner."

Records pertaining to the requirements of this rule shall be maintained, at a minimum, for

the full five years of the permit term. The conditions in subdivisions (1) and (2) may extend the five-year record keeping requirement.

"(c) The commissioner may request data to facilitate the identification or quantification of pollutants that may be released to the environment from an MS4 conveyance, or to determine effectiveness of the MCMs.*"

IDEM has the authority to request data from a regulated MS4 entity to facilitate determination of pollutant types and volumes, or effectiveness of minimum control measures.

"(d) The commissioner, or an authorized representative, upon providing appropriate credentials, may inspect an MS4 entity regulated under this rule at any time. As it pertains to sections 15 and 16 of this rule, the department of natural resources, division of soil conservation staff, or their designated representative, upon providing appropriate credentials, may inspect an MS4 entity regulated under this rule at any time. Record keeping and reporting requirements for sections 15 and 16 of this rule shall conform to 327 IAC 15-5.*"

Under 327 IAC 15-5 (Rule 5), the Department of Natural Resources, Division of Soil Conservation, has a memorandum of understanding with IDEM to inspect construction site projects subject to Rule 5. Since IDEM retains oversight of the construction site storm water run-off control minimum control measure in this rule, the Department of Natural Resources, Division of Soil Conservation, staff also maintain the authority to conduct inspections related to this minimum control measure and that of the related postconstruction storm water run-off controls in new development and redevelopment minimum control measure. Any record keeping and reporting requirements in sections 15 and 16 of this rule must be consistent with Rule 5, due to this state oversight.

"(e) All persons or MS4 entities responsible for the MS4 conveyances shall be responsible for complying with the SWQMP for the MS4 area and the provisions of this rule. Any person or MS4 entity causing or contributing to a violation of any provisions of this rule shall be subject to IC 13-30 and IC 13-14-10.*"

Any person or MS4 entity within a regulated MS4 area can be held responsible for provisions of the rule that they are legally bound to accomplish. The MS4 operator has management of the storm water program for the MS4 area, but, if a specific MS4 entity within the MS4 area is not complying with their responsibilities, the MS4 entity can be subject to investigation and possible enforcement action for violations of this rule or any of the prohibited acts listed in IC 13-30-2-1 by IDEM. Under IC 13-30, IDEM is given the authority to issue agreed orders, commissioner orders to cease and desist, civil penalties up to $25,000 per day, Class C infractions for interfering with an investigation, and Class D felonies for intentional, knowingly, or recklessly violating rules. Under IC 13-14-10, IDEM is given the authority to request and act upon on emergency orders in

situations where there is a clear and present danger to the health and safety of persons in any area.

"(f) All projects within a regulated MS4 area meeting the applicability requirements of 327 IAC 15-5 are subject to inspection and enforcement by the department or their designated representative for violations associated with 327 IAC 15-5.*"

Construction site projects within a regulated MS4 area that are greater than one acre in size, or less than one acre, but part of a larger common plan of development, are still subject to oversight under the 327 IAC 15-5, or Rule 5, state program. IDEM, or their designated representative (primarily the Indiana Department of Natural Resources, Division of Soil Conservation), maintain the authority to inspect and, if necessary, take enforcement action against projects meeting the size specifications of Rule 5 within a regulated MS4 area. Construction site projects less than one acre may also be subject to state oversight if they are contributing to a water quality violation.

APPENDIX A – STATE FORM TEMPLATES

Rule 13 - Certification - Illicit Detection and Elimination MCM - 494-1.pdf

Rule 13 - Certification - Construction Site Storm Water Run-Off Control MCM - 496-1.pdf

Rule 13 - Certification - Public Participation And Involvement MCM - 495-1.pdf

Rule 13 - Certification - Postconstruction Storm Water Run-Off Control MCM - 498-1.pdf

Rule 13 - Certification - Municipal Operations Pollution Prevention and Good Housekeeping MCM - 497-1.pdf

Rule 13 - Certification - Public Education and Outreach MCM - 499-1.pdf

Rule 13 - Monthly Summary Report of Construction Projects - 500-1.pdf

Rule 13 - Storm Water Quality Management Plan (SWQMP) - Part A: Initial Application Certification Submittal And Checklist - 276-1.pdf

Rule 13 - Storm Water Quality Management Plan (SWQMP) - Part B: Baseline Characterization And On-Going Monitoring Plan Certification Checklist - 277-1.pdf

Rule 13 - Storm Water Quality Management Plan (SWQMP) - Part C: Program Implementation Certification Checklist - 278-1.pdf

Rule 13 - MS4 Annual Report - 295-1.pdf

Rule 13 - Notice Of Intent (NOI) Letter - 296-1.pdf

APPENDIX B – CLASS V INJECTION WELL FORMS

EPA - Inventory of Injection Wells Form - cl5invfm.pdf (instructions - cl5invin.pdf)